



**STATE OF NEW JERSEY**

*Board of Public Utilities*

*Two Gateway Center  
Newark, NJ 07102*

TELECOMMUNICATIONS

IN THE MATTER OF THE BOARD'S )  
REVIEW OF UNBUNDLED NETWORK )  
ELEMENTS RATES, TERMS AND )  
CONDITIONS OF BELL ATLANTIC-NEW )  
JERSEY, INC. )

DECISION AND ORDER

DOCKET NO. TO00060356

(SERVICE LIST ATTACHED)

BY THE BOARD:

**PREFACE**

This Decision and Order memorializes the decisions made by the Board of Public Utilities ("Board") at its public agenda meeting of November 20, 2001, regarding the recurring and non-recurring rates for unbundled network elements ("UNEs") and the terms and conditions under which certain advanced services, such as digital subscriber line ("DSL") service, should be made available by Verizon New Jersey Inc.<sup>1</sup> ("Verizon NJ," "VNJ" or "the Company") to competitive local exchange carriers ("CLECs"). The Decision and Order also includes the Board's findings and determinations with regard to the rates, terms and conditions under which new UNEs, such as dark fiber and house and riser cable, shall be made available.

On November 20, 2001, the Board announced its decision in this matter and authorized the release of a Secretary's letter dated November 20, 2001, directing Verizon NJ to rerun its costs models, which are used to derive recurring and non-recurring UNE rates, with specific Board-

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<sup>1</sup> Verizon NJ was formerly known as Bell Atlantic-New Jersey, Inc. ("BA-NJ"). Following the merger of Bell Atlantic Corporation, its parent, with GTE Corporation in June 2000, BA-NJ changed its name to Verizon New Jersey.

approved inputs and assumptions. On December 17, 2001, the Board released a Summary Order of Approval setting forth the Board's findings in summary fashion along with attachments setting forth final recurring and non-recurring rates based upon the Board's November 20, 2001 oral decision. This Decision and Order completes the review of UNE rates, terms and conditions, announced at the Board's June 7, 2000 agenda meeting, and sets forth the positions of the parties, the Board's analysis, and the reasoning underlying the Board's determinations. The majority of the UNE rates that we have determined herein were initially established in the Board's December 2, 1997 Decision and Order ("Generic Order") in the Board's Generic Proceeding,<sup>2</sup> and thereafter remanded to the Board by Order of Judge Katherine S. Hayden in AT&T Communications of New Jersey, Inc., et al. v. Bell Atlantic-New Jersey, Inc., et al., Civ. Nos. 97-5762(KSH) and 98-0109 (KSH)(D.N.J. June 6, 2000) (hereinafter, "District Court Opinion"). The Board's Decision and Order herein is based upon an extensive record developed in an evidentiary proceeding that included 17 days of hearings, 26 expert witnesses, over 265 exhibits and over 3,900 pages of transcripts.

The structure of the Decision and Order is intended to reflect the outline that was developed by Staff and the parties for briefing purposes. *Section I – INTRODUCTION* – places the actions taken herein within the context of the Board's continuing efforts to establish pro-competitive policies for application in all telecommunications markets in the State of New Jersey. *Section II – BACKGROUND* – provides a detailed procedural history of the proceedings leading up to the issuance of this Decision and Order. *Section III – RECURRING COSTS OF UNES* – sets forth the Board's determinations regarding the recurring costs related to Verizon NJ's provisioning of UNES. It also provides a summary and analysis of the record upon which the determinations of the Board in these areas are based. Included are discussions of the Total Element Long-Run Incremental Cost ("TELRIC") methodology and cost models, including their input assumptions, proposed by the parties. *Section IV – NON-RECURRING COST MODELS* – sets forth the Board's determinations regarding the non-recurring costs related to Verizon NJ's provisioning of UNES. Also included are discussions of the non-recurring cost models, along with their input assumptions, proposed by the parties. These discussions involve issues related to: forward-looking network assumptions; the role of operations support systems ("OSS"); study time horizon; new lines, conversion and migration; and the appropriate methods to estimate the time required to perform required work functions. *Section V – OTHER ISSUES* – sets forth the

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<sup>2</sup>See Decision and Order, I/M/O the Investigation Regarding Local Exchange Competition For Telecommunications Services, Docket No. TX95120631 (Dec. 2, 1997).

Board's determinations regarding digital subscriber line ("DSL") services, house and riser cable, dark fiber, reciprocal compensation, sub-loop unbundling, customer specific pricing arrangements, and the terms and conditions of the additional UNEs introduced since the issuance of the Generic Order. *Section VI – CONCLUSION AND ORDER* – provides, in summary fashion a listing of the determinations and directives made by the Board in this Order.

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## I. INTRODUCTION

By this Decision and Order, the Board of Public Utilities issues its findings and determinations with regard to the recurring and non-recurring rates, terms and conditions for the provision of unbundled network elements and certain advanced services, such as digital subscriber line service, to be provided by Verizon New Jersey Inc. and made available to competitive local exchange carriers by Verizon NJ. The Board also issues its findings and determinations with regard to the terms and conditions under which additional UNEs, such as dark fiber and house and riser cable, shall be made available. The action, which is set forth herein, continues the Board's efforts to make certain that the benefits of competition recognized in the Telecommunications Act of 1992, N.J.S.A. 48:2-21.16 et seq., and the federal Telecommunications Act of 1996 ("Act"), P.L. 104-104, 110 Stat. 56, codified in scattered sections of 47 U.S.C. §151 et seq., inure to the local exchange telecommunications market consumers of this State. This Decision and Order also fulfills the Board's obligation to review VNJ's UNE rates as set forth in the Generic Order, and remanded back to the Board by the District Court Opinion.

The Act, effective February 8, 1996, set forth a national policy framework to establish a competitive and deregulated telecommunications market designed to accelerate the rapid deployment of advanced telecommunications services and technologies by opening all telecommunications markets to competition. See P.L. 104-104, 110 Stat. 56. The Act also is intended to foster the development of facilities-based competition through infrastructure investments made by competitive local exchange carriers.<sup>3</sup> Importantly, the Act imposes on an incumbent local exchange carriers ("ILEC" or "incumbent LEC") the duty to negotiate in good faith the terms and conditions of interconnection agreements to fulfill their obligations under the Act. These ILEC obligations include, but are not limited to, the duty to provide interconnection with the networks of requesting CLECs, the duty to provide nondiscriminatory access to unbundled network elements to CLECs, and the duty to offer for resale at wholesale rates any telecommunications service that the ILEC provides to subscribers who are not telecommunications carriers. 47 U.S.C. §251.

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<sup>3</sup>See First Report and Order, I/M/O Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, and I/M/O Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Docket Nos. 96-98 and 95-185 (August 8, 1996) (hereinafter, "First Report and Order") at 12; AT&T v. Iowa Utilities Bd., 525 U.S. 366, 119 S.Ct. 721, 142 L.Ed. 2d 835 (1999); Iowa Utilities Bd. v. F.C.C., 219 F.3d 744 (8<sup>th</sup> Cir. 2000); petitions for cert. granted in part, 531 U.S. 1124, 121 S.Ct. 877-879 148 L.Ed. 2d 788-789 (2001).

Enacted on February 8, 1996, the Act instructed the Federal Communications Commission ("FCC") to "complete all actions necessary to establish regulations to implement the requirements" of Section 251 of the Act within six months. On August 8, 1996, the FCC released the First Report and Order. Both the Act and the subsequent FCC rulemakings, as interpreted and applied by FCC orders and federal and State of New Jersey case law, provide the controlling authority by which the Board is guided in making the decisions articulated in this Decision and Order.

## **II. BACKGROUND**

On December 2, 1997, the Board issued its Generic Order establishing, among other things, rates, terms and conditions for UNEs to be provided by Verizon NJ. On June 1, 2000, the Board announced its intention to review the UNE rates established in the Generic Order. The Board's decision to re-evaluate the UNE rates established in the Generic Order was consistent with the Board's Generic Order statements that it would continue to monitor UNE rates and, if appropriate, would reevaluate those rates. In addition, the Board stated that it would monitor all federal decisions and directives and determine their impact on the Board's December 2, 1997 Decision and Order. Generic Order at 70-71, 255.

On June 6, 2000, the United States District Court for the District of New Jersey affirmed in part, reversed in part, and remanded in part issues addressed in the Generic Order. The District Court Opinion remanded to the Board for further review, the issue of recurring and non-recurring UNE rates, access to dark fiber, subloop unbundling and customer specific pricing arrangements. With regard to UNE rates, the Court found that the Board failed to articulate reasonably the basis for its rate determinations and stated:

[W]hether the Board intends to hold new hearings, or simply recalculate the rates based on data previously provided by the parties in the generic proceeding is a decision it must make. The Board may choose to adopt prices on an item-by-item basis from whichever model is more accurate on a particular item, or assign its own value to an item where all models are inaccurate. Should a blending of some proposed prices make sense, . . . such weighting as the Board chooses can vary from item to item, more rationally reflecting the specific deficiencies of any one model.

[District Court Opinion at 30]

On June 7, 2000, shortly after the District Court remanded rates back to the Board for further review, the Board initiated the instant proceeding regarding Verizon NJ's unbundled network element rates and the associated issues referred to above. At its June 23, 2000 agenda meeting, the Board requested that interested parties augment the record existing in the Generic Proceeding to address the following issues:

- Dark Fiber
- Subloop Unbundling
- Line Sharing
- Customer Specific Pricing Arrangements
- Recurring and Non-Recurring UNE Rates
- Information From Other Proceedings Relating to UNEs (i.e., FCC or Pennsylvania Decisions)
- UNEs Filed After December 1997.

See, Order, Docket No. TO00060356 (September 15, 2000). In addition to these issues, the Board also required the parties, with regard to recurring and non-recurring UNE rates, to update and/or revise their cost models to remove deficiencies previously found by the Board and to reflect the current state of applicable law and regulation. (Ibid.).

Active parties in this proceeding included the following: Verizon NJ, the Board's Staff, the New Jersey Division of the Ratepayer Advocate ("Advocate" or "RPA"), AT&T Communications of NJ, L.P. ("AT&T"), MCI WorldCom, Inc. ("WorldCom"), Covad Communications Company ("Covad"), Sprint/United Communications Company, L.P. ("Sprint"), Cablevision Lightpath-NJ, Inc. ("Cablevision") and Conversant Communications of New Jersey, L.L.C. ("Conversant"). After the parties' simultaneous submissions of pre-filed direct and rebuttal testimony, evidentiary hearings were conducted before Commissioner Frederick F. Butler on various dates from November 28, 2000 to February 8, 2001.<sup>4</sup> Following the close of evidentiary hearings, the

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<sup>4</sup> Citations herein to the transcripts of the hearings shall be to the volume, followed by page numbers, as follows:

<u>Hearing Date</u>	<u>Volume</u>
11/28/00	1T
11/29/00	2T
11/30/00	3T
12/01/00	4T

parties continued to exchange information relating to outstanding discovery and transcript requests made during the hearings. Pursuant to a discovery ruling, Verizon NJ was required to provide additional material to the parties on switch purchases and associated discounts received and AT&T was allowed to file supplemental testimony on that material. The record was closed officially on June 1, 2001.

Verizon NJ presented pre-filed testimony of the following witnesses: Marsha S. Prosini, Bruce Meacham, Dr. William E. Taylor, Amy Stern, Donald E. Albert, Dr. Timothy Tardiff, Joseph Gansert, Dr. James H. Vander Weide, and John White. The Advocate presented pre-filed testimony of the following witnesses: James Rothschild and Scott Lundquist. AT&T presented pre-filed testimony of the following witnesses: Thomas J. Cosgrove, Dean Fassett, John I. Hirshleifer, Robert A. Mercer, Michael Baranowski, E. Christopher Nurse, Richard Walsh, and Paul Cain. WorldCom presented pre-filed testimony of the following witnesses: August H. Ankum, Mark Stacy, Erik McPeak, and Sidney L. Morrison (adopting testimony of Erik McPeak). Covad presented prefiled testimony of the following witnesses: Terry L. Murray and Joseph P. Riolo. Sprint/United presented pre-filed testimony of the following witness: James Maples. Conversant presented pre-filed testimony of the following witness: David A. Graham.

Initial and reply briefs were due on June 18, 2001, and July 13, 2001, respectively. Initial and reply briefs were filed by Verizon NJ, the Advocate, AT&T, WorldCom, Sprint/United, Cablevision Lightpath, and Covad.<sup>5</sup> An initial brief only was filed by Conversant.

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12/18/00	5T
12/19/00	6T
12/20/00	7T
12/21/00	8T
01/03/01	9T
01/05/01	10T
01/18/01	11T
01/19/01	12T
01/23/01	13T
01/24/01	14T
01/26/01	15T
02/05/01	16T
02/08/01	17T.

Thus, for example, "8T1654-1656" shall refer to the transcript of December 21, 2000, pages 1654 through 1656.

<sup>5</sup> Citations herein to the parties' briefs are as follows:

<b><u>Party</u></b>	<b><u>Citation to Initial/Reply Brief</u></b>
Verizon NJ	VNJb / VNJrb
Advocate	Ab / Arb
AT&T	AT&Tb / AT&Trb
WorldCom	WCb / WCrb
Sprint/United	SUb / SUrb

In rendering this final decision, the Board **HEREBY AFFIRMS** all interlocutory decisions made by Commissioner Butler during these proceedings.

### III. RECURRING COSTS OF UNEs

#### A. TELRIC Methodology

##### Statement of the Issue

In response to §252(d)(1) of the Act,<sup>6</sup> which requires that the states set prices for unbundled elements that are cost-based and non-discriminatory, but which should include a reasonable profit, the FCC issued guidelines regarding the authority of State Commissions to interpret and apply the Total Element Long Run Incremental Cost (“TELRIC”) pricing methodology. See, generally, the FCC’s First Report and Order, and 47 C.F.R. § 51.1 et seq. Specifically, the First Report and Order requires that the prices new entrants pay for interconnection and unbundled elements be based on the incumbent local exchange company’s TELRIC. First Report and Order at ¶672. The FCC concluded that a proper TELRIC study may not consider the following factors in a calculation of the forward-looking cost of an element: embedded costs<sup>7</sup>, opportunity costs<sup>8</sup>, certain retail costs,<sup>9</sup> and revenues to subsidize other services.<sup>10</sup> The FCC stated that forward-looking costs using the existing network design “most closely represents the incremental costs that incumbents actually expect to incur in making network elements available to new entrants.” First Report and Order at ¶685. The FCC further stated that “[a] dopting a pricing methodology based on forward-looking, economic costs best replicates, to the extent possible, the conditions of a competitive market. In addition, a forward-looking cost

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Cablevision	Clb/Clrb
Covad	COVb/COVrb
Conversent	CONb.

<sup>6</sup> 47 U.S.C. § 252(d)(1)

<sup>7</sup> The term “embedded costs” is defined as “the costs that the incumbent LEC incurred in the past and that are recorded in the incumbent LEC’s books of accounts.” 47 C.F.R. § 51.505(d)(1).

<sup>8</sup> The term “opportunity costs” is defined to “include the revenues that the incumbent LEC would have received for the sale of telecommunications services, in the absence of competition from telecommunications carriers that purchase elements.” 47 C.F.R. § 51.505(d)(3).

<sup>9</sup> The term “retail costs” is defined to “include the costs of marketing, billing, collection, and other costs associated with offering retail telecommunications services to subscribers who are not telecommunications carriers.” 47 C.F.R. § 51.505(d)(2).

<sup>10</sup> The term “revenues to subsidize other services” is defined to include “revenues associated with elements or telecommunications service offerings other than the element for which a rate is being established.” 47 C.F.R. § 51.505(d)(4).

methodology reduces the ability of an incumbent LEC to engage in anti-competitive behavior.” First Report and Order at ¶679.

The FCC’s TELRIC standard has been the subject of substantial debate and legal challenge.<sup>11</sup> At the urging of numerous state commissions and local exchange companies, the United States Court of Appeals for the Eighth Circuit reviewed the FCC’s TELRIC rule, 47 C.F.R. §51.505(b), which was adopted by the FCC in the First Report and Order. On July 18, 2000, the Court issued an opinion in which it found that the “hypothetical network standard,” which required that the allowable charges for the use of an ILEC’s existing facilities and equipment be based on what the costs would be if the ILEC provided the most efficient technology and in the most efficient configuration available today, “violates the plain meaning of the Act,” and accordingly vacated and remanded to the FCC 47 C.F.R. §51.505(b)(1). See Iowa Util. Bd. v. FCC, supra, 219 F.3d at 750-751. In essence, the Court determined that the Act requires prices to be based on the ILEC’s “cost of providing the actual facilities and equipment that will be used by the competitor,” rather than “some state of the art presently available technology ideally configured but neither deployed by the ILEC nor to be used by the competitor.” Id. at 751. On September 22, 2000, the Eighth Circuit issued a partial stay of its decision pending the United States Supreme Court’s review of its decision. On January 22, 2001, the Supreme Court granted petitions for writs of certiorari to the Eighth Circuit, wherein the questions accepted for review include the validity of the Eighth Circuit’s decision vacating the FCC’s TELRIC pricing rule 51.505(b)(1).<sup>12</sup> Thus, pending the resolution by the Supreme Court of the Eighth Circuit’s decision vacating the FCC pricing rule, 47 C.F. R. §51.505(b)(1), the TELRIC methodology continues to be the appropriate standard for establishing rates for unbundled network elements.

Because TELRIC is not a number or a mathematical formula, but rather a general framework of principles that govern pricing determinations, the parties disagree about the correct application

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<sup>11</sup> A history of the legal challenges to the UNE pricing provisions of the Act and the FCC’s rules implementing those provisions, is set forth in footnote 3.

<sup>12</sup> Petitions for writs of certiorari to the United States Court of Appeals for the Eighth Circuit were granted, limited to the following questions: (1) whether the court of appeals erred in holding that 47 U.S.C. § 252(d)(1) (Telecommunications Act of 1996) forecloses the cost methodology adopted by the FCC, which is based on the efficient replacement cost of existing technology, for determining the interconnection rates that new entrants into local telecommunications markets must pay incumbent local telephone companies; (2) whether the court of appeals erred in holding that neither the Takings Clause nor the Telecommunications Act of 1996 requires incorporation of an incumbent local exchange carrier’s “historical” costs into the rates that it may charge new entrants for access to its network elements; (3) whether 47 U.S.C. §251(c)(3) prohibits regulators from requiring that incumbent local telephone companies combine certain previously uncombined network elements when a new entrant requests the combination and agrees to compensate the incumbent for performing that task. See Verizon Communications Inc., et al. v. FCC, et al., 531 U.S. 1124, 121 S.Ct. 877 (2001); WorldCom, Inc., et al. v. Verizon Communications, Inc. et al., 531 U.S. 1124, 121 S.Ct. 877 (2001); FCC, et al. v. Iowa Utilities Board, et al., 531 U.S. 1124, 121 S. Ct. 878 (2001); AT&T Corp. v. Iowa Utilities Board, et al., 531 U.S. 1124, 121 S.Ct. 878 (2001); General Communications, Inc. v. Iowa Utilities Board, 531 U.S. 1124, 121 S.Ct. 879 (2001).

of TELRIC. Namely, the parties disagree about the interpretation of how an efficient carrier would incur costs to provide service in a forward-looking environment.

Section 51.505 of the FCC's rules provides:

- (a) The forward-looking economic cost of an element equals the sum of:
  - (1) The total element long-run incremental cost of the element, as described in paragraph (b); and
  - (2) A reasonable allocation of forward-looking common costs, as described in paragraph (c).
- (b) The total element long-run incremental cost of an element is the forward-looking cost over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, such element, calculated taking as a given the incumbent LEC's provision of other elements:
  - (1) Efficient network configuration. The total element long run incremental cost of an element should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers.
  - (2) Forward-looking cost of capital. The forward-looking cost of capital shall be used in calculating the total element long-run incremental cost of an element.
  - (3) Depreciation rates. The depreciation rates used in calculating forward-looking economic costs of elements shall be economic depreciation rates.

In a series of paragraphs leading up to the FCC's general conclusions contained in the above sections, the FCC discusses the three approaches it considered when pricing out UNEs. While the codified regulations resulting from the FCC's First Report and Order are brief and to the point, we must be cognizant of the rationale that preceded the codification. Paragraph 683 considers the implications of a strict TELRIC methodology. Paragraph 683 states:

Forward-looking cost methodologies, like TELRIC, are intended to consider the costs that a carrier would incur in the future. Thus, a question arises whether costs should be computed based on the least-cost, most efficient network configuration and technology

currently available, or whether forward-looking cost should be computed based on incumbent LECs' existing network infrastructures, taking into account changes in depreciation and inflation. The record indicates three general approaches to this issue. Under the first approach, the forward-looking economic cost for interconnection and unbundled elements would be based on the most efficient network architecture, sizing, technology, and operating decisions that are operationally feasible and currently available to the industry. Prices based on the least-cost, most efficient network design and technology replicate conditions in a highly competitive marketplace by not basing prices on existing network design and investments unless they represent the least-cost systems available for purchase. This approach, however, may discourage facilities-based competition by new entrants because new entrants can use the incumbent LEC's existing network based on the cost of a hypothetical least-cost, most efficient network.

The second approach, referenced at paragraph 684, considers an embedded cost methodology and is clearly rejected by the FCC later in paragraphs 704-707. In paragraph 685 of the First Report and Order, the FCC describes the third approach that is ultimately chosen by the FCC. Paragraph 685 states the following:

prices for interconnection and access to unbundled elements would be developed from a forward-looking economic cost methodology based on the most efficient technology deployed in the incumbent LEC's current wire center locations. This approach mitigates incumbent LECs' concerns that a forward-looking pricing methodology ignores existing design, while basing prices on efficient, new technology that is compatible with the existing infrastructure. This benchmark of forward-looking cost and existing network design most closely represents the incremental costs that incumbents actually expect to incur in making network elements available to new entrants. Moreover, this approach encourages facilities-based competition to the extent that new entrants, by designing more efficient network configurations, are able to provide the service at a lower cost than the incumbent LEC. We, therefore, conclude that the forward-looking pricing methodology for interconnection and unbundled network elements should be based on costs that assume that wire centers will be placed at the incumbent LEC's current wire center locations, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements.<sup>13</sup>

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<sup>13</sup> See Paragraph 690 of the First Report and Order for a reaffirmation of the FCC's conclusion that "[c]osts must be based on the incumbent LEC's existing wire center locations and most efficient technology available."

## Positions of the Parties

### Verizon NJ Position

Verizon NJ argued that CLECs and the Advocate have inappropriately based their TELRIC costs “on an idealized fantasy network that assumes levels of efficiency and futuristic technology deployment that could never be achieved by any new entrant or any provider of local exchange services.” (VNJb at 11). Verizon NJ alleged that forward-looking cost models should reflect real world economic considerations which take into account growth, uncertainty, and the fact that real networks are constructed over time with actual resources. (VNJb at 11-12). Verizon NJ maintained that “an economically correct long run cost study should reflect how a telecommunications company can actually expect to deploy its network.” (*Id.* at 12). VNJ argued that its “cost studies are designed to measure forward-looking, long run incremental costs based upon reasonably deployable forward-looking technology and engineering guidelines that would be used by an efficient real world firm providing UNEs.” (*Ibid.*). Verizon NJ refuted AT&T’s claims that its studies filed in this proceeding were not TELRIC-compliant merely because Verizon was challenging the legality of TELRIC before the Eighth Circuit and the Supreme Court. (VNJrb at 20). Verizon NJ argued that, although it disagrees with the use of TELRIC to establish Act-compliant UNE rates, in recognition of the fact that the FCC TELRIC pricing rule is in effect, it prepared and filed cost studies consistent with the TELRIC methodology. (VNJb at 9). Notably, Verizon NJ also reserved its rights to file revised UNE rates in the event the Supreme Court affirms the Eighth Circuit decision vacating the FCC TELRIC pricing rule. (*Id.* at 9, n. 26)

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In response to AT&T’s allegations that Verizon NJ embraced inconsistent positions before the Board and the courts in which it is challenging the TELRIC pricing rule, Verizon NJ alleged that AT&T had, in fact, adopted inconsistent positions in its attempts to defend TELRIC before the Eighth Circuit and the Supreme Court. (VNJrb at 19). Specifically, Verizon NJ stated that “although AT&T argues here that Verizon’s use of the term ‘actual’ costs is a euphemism for ‘embedded’ costs, before the Eighth Circuit AT&T argued that ‘actual costs’ does not mean ‘historic’ or ‘accounting’ costs and that ‘actual cost’ does not ‘prescribe . . . an accounting’

(historical) ‘rather than an economic’ (forward-looking) conception of cost.” (VNJrb at 19-20, quoting from AT&T’s Eighth Circuit brief at 28-29). Similarly, Verizon NJ asserted that, although AT&T argues that TELRIC is purely hypothetical and such an interpretation of TELRIC is acceptable, before the Eighth Circuit AT&T alleged that TELRIC is “no more ‘imaginary’ than a historical cost model” and described TELRIC as a “forward-looking approach [that] makes a real world assessment, based on verifiable market prices, of the costs any firm would incur to build an efficient network capable of providing required elements today.” (VNJrb, at 19, quoting from AT&Tb Eighth Circuit brief at 34)

### **Advocate Position**

The Advocate, citing ¶¶685 and 704 of the FCC’s First Report and Order, argued that “efficient network configurations, rather than any particular ILEC’s embedded network design, should be taken into account for UNE costing purposes.” (Ab at 17-18). The Advocate asserted that Verizon NJ’s use of “actual” technology and architecture is actually a “euphemism for embedded” data that are prohibited by TELRIC. (*Id.* at 18). The Advocate further claimed that Verizon NJ used inconsistent network assumptions to derive costs in violation of the “TELRIC requirement that recurring and nonrecurring charges be developed using the same assumptions concerning technology and architecture.” (*Id.*).

### **AT&T Position**

AT&T asserted that TELRIC mandates forward-looking costs “that an efficient firm, unconstrained by any legacy of existing investment in obsolete or inefficiently sized assets, would incur to build, operate and maintain a local telephone network over the long run in a competitive market.” (AT&Tb at 21). Furthermore, AT&T argued that the principle model for its cost studies, all of which, according to AT&T comply with TELRIC, estimates the costs that “an efficient firm would incur to provide unbundled network elements and interconnection services, assuming the flexibility to use the most efficient technology . . . constrained only by the assumption that a competing supplier must continue to use VNJ’s existing wire center locations.” (AT&Tb at 23). AT&T alleged that Verizon NJ’s cost studies violated TELRIC standards because they measured “actual expected costs” and included the costs that TELRIC excludes: “embedded costs, short-run costs, uneconomic costs, and costs that are unattributable to UNEs.” (AT&Tb at 23). AT&T also argued that Verizon’s judicial challenges to

TELRIC “underscores that VNJ’s proposed cost estimates cannot be TELRIC-compliant.” (AT&Tb 28-29).

### **WorldCom Position**

WorldCom asserted that TELRIC principles require that: “the company should be assumed to operate in the long run;” “[t]he relevant increment of output should be total company demand for the UNE in question;” “[t]echnology choices should reflect least-cost, most efficient technologies;” and “[c]osts should be forward-looking.” WCb at 16. WorldCom also alleged that Verizon NJ’s TELRIC cost model was not TELRIC compliant because its cost studies “rely on historic embedded data.” WCb at 15-16.

### **Board Discussion**

The Board finds that, until the Supreme Court renders its decision regarding the FCC TELRIC pricing rule, rates for UNEs should be based upon the existing TELRIC principles tempered by reasoned constraints premised on a practical scrutiny of what technologies are currently available and may reasonably be expected to be provisioned by an efficient ILEC for itself and CLECs. We believe that the guiding force in developing TELRIC-compliant rates should focus on Verizon-NJ’s existing wire center locations and forward-looking technologies which would permit competitors non-discriminatory access to UNEs at cost-based prices, and at parity with the access that Verizon-NJ provides to itself, consistent with the FCC’s rules. We firmly believe that the principles that accompany TELRIC require that available forward-looking technologies be considered in developing TELRIC-compliant rates, so that CLECs may have service provisioned at parity with the incumbent’s provisioning to itself.

The fact that Verizon and other ILECs throughout the country have challenged the TELRIC standard on the basis that it denies incumbents an opportunity to recover historical costs, costs that are generally higher than forward-looking costs, should not influence our development of TELRIC-based rates in this proceeding. Instead, throughout this Decision and Order, the Board will analyze objectively all cost studies and assumptions presented by the parties based upon the TELRIC standard.

We also recognize that TELRIC is not a precise number, but rather a general methodology for costing network elements. The United States Court of Appeals for the District of Columbia

recognized this when it rejected a challenge by AT&T to the FCC's approval of Bell Atlantic Corporation's petition to provide in-region interLATA services in New York State based, in part, upon its contention that the UNE rates established by the New York Public Service Commission were not TELRIC-compliant. The Court stated that quoting from the FCC's Order approving Bell-Atlantic's long distance entry in New York:

TELRIC is not a specific formula, but a framework of principles that govern pricing determinations. '[W]hile TELRIC consists of 'methodological principles' for setting prices, states retain flexibility to consider 'local technological, environmental, regulatory and economic conditions.' [citations omitted] In other words, while state commissions use TELRIC to establish rates, application of TELRIC principles may result in different rates in different states.

[AT&T Corp. v. FCC, 220 F.3d 607,615 (D.C. Cir. 2000) (citations omitted).]

In fact, recent FCC decisions and orders approving ILEC applications under Section 271 of the Act have acknowledged that state commissions have the discretion to apply their reasonable and informed judgment in developing UNE rates that fall within an acceptable TELRIC range.<sup>14</sup> Thus, the FCC has recognized that rates approved by a state commission violate the Act, or the TELRIC standards, "only if basic TELRIC principles are violated or the state commission makes clear errors in factual findings on matters so substantial that the end result falls outside the range that the reasonable application that TELRIC principles would produce."<sup>15</sup> Accordingly, the Board has discretion to apply its reasonable and informed judgment and expertise to determine the forward-looking costs of the provision of access to UNEs in New Jersey.

We find that an appropriate calculation of Verizon NJ's forward-looking costs should reasonably capture the network design and layout of Verizon NJ's network, while rejecting embedded costs and unreasonable assumptions, and adjusted to include forward-looking and efficient technologies that put CLECs, at parity with the ILEC in service provisioning through the provision of specific requested network elements. However, a properly constructed forward-looking cost study must consider changing technologies which either are currently or could reasonably be expected to be deployed over the time horizon of the study to efficiently provide

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<sup>14</sup> See, e.g., In re: Joint Application by SBC Communications, Inc., et al., for Provision of In-Region, InterLATA Services in Kansas and Oklahoma, CC Docket No. 00-217, FCC01-29, 2001 WL 55637 (Jan. 22, 2001) ("Kansas/Oklahoma 271 Order"), at ¶59.

<sup>15</sup> Kansas/Oklahoma 271 Order ¶74.

UNEs to CLECs. Thus, TELRIC should include directly attributable costs for the entire increment of the specific element being purchased, using, among other things, economic depreciation rates, a forward-looking cost of capital, and reasonable fill factors, and must be based upon existing wire center locations. Consistent with this approach, we believe that the use of inefficient technologies in a forward-looking environment when other more efficient alternatives exist is a clear departure from proper TELRIC principles.

In this case, the primary dispute between the parties is that Verizon NJ's methodology measures the forward-looking costs that it believes an efficient local exchange carrier could actually expect to incur to provide UNEs in New Jersey, while the CLECs and the Advocate follow a "least cost, most efficient" criteria. We agree with Verizon NJ to some extent that forward-looking cost models need to reflect real world considerations, but are concerned that the existing network, a network that was originally constructed in a monopoly environment and intended for use by a single carrier, may disadvantage CLECs without proper forward-looking adjustments as clearly intended by the FCC when it developed and issued its rules on local competition.

As noted above, the FCC TELRIC methodology is intended to develop rates based upon the total element long-run incremental cost of an element over the long run which includes the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental, using the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers.<sup>16</sup> 47 C.F.R. § 51.505(b).

Equally as important, is the fact embedded costs must not be included in a TELRIC study. TELRIC clearly prohibits the inclusion of embedded costs. The FCC pricing rule defines "embedded costs" as "costs that the incumbent LEC incurred in the past and that are recorded in the incumbent LEC's books of accounts." 47 C.F.R. § 51.505(d)(1). Thus, costs that are based on historical expenditures may not be included as specific costs in the TELRIC study.

The prohibition against the use of embedded costs, while clear, however, does not necessarily mean that embedded cost data cannot be used as a starting point to develop forward-looking

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<sup>16</sup> Id. at ¶74, quoting from FCC's own Memorandum Opinion and Rules Application of Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region InterLATA Service in the State of New York, cc Docket No. 99-295, FCC 99-404, (December 22, 1999) at ¶246.

inputs and estimates if their use results in the best and most accurate cost data available. In fact, it is the Board's duty to consider all available data. The Board believes that making informed and sound judgments as to how those costs may or may not change in the future, and this can be an entirely reasonable method of estimating certain forward-looking costs.

## **B. Recurring Cost Models**

### **Statement of the Issue**

In this proceeding, Verizon NJ and AT&T have each filed cost models intended to estimate the forward-looking recurring costs of providing UNEs in New Jersey. The cost models form the basis for each party's recommended rates for unbundled elements. The issue before the Board is whether these cost models can be relied upon to produce just and reasonable UNE rates that comply with the requirements of the Act.<sup>17</sup> Each model has assumptions and simplifying techniques that have been explored and analyzed by the parties to determine whether these assumptions and techniques support the usefulness of the model and, hence, its results. Furthermore, since each model incorporates certain inputs and assumptions, the Board also must decide whether these inputs and assumptions are reasonable for the setting of TELRIC-compliant rates.

Verizon NJ's recurring cost study, which consists of several dozen separate studies and is at times collectively referred to as the "Verizon NJ Model," "VNJ Model," or "Verizon NJ Cost Study," identified the recurring costs associated with the provision of over 150 UNEs and other services. AT&T sponsored the HAI Model 5.2a cost model, known in earlier versions as the "Hatfield Model" and sometimes generally referred to as such.

To analyze these cost studies, the parties conducted extensive discovery and cross-examination of witnesses. These witnesses addressed what they believed to be the benefits and flaws in each of the various models. The resulting record demonstrates clearly that there are differences in the basic mechanics and methodologies of the models (i.e., VNJ Model and HAI Model) presented. As we found in the Generic Order, the record in this proceeding clearly indicates that the costs produced by the various studies submitted by the parties are strongly

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<sup>17</sup> Since the objective of the model is to present a price or rate that is cost-based, the terms, the terms "cost" and "rate" are at times interchangeable.

influenced by two factors: the mechanics and engineering assumptions of the model(s) selected and the input assumptions to those models.

The differences among the studies' mechanics and the influences of those different mechanics and varying inputs over the results are more thoroughly discussed in the sections of this Order immediately following this section. We begin our discussion here by providing a general description of each of the models, highlighting the positions of the parties contained in the record, including the various parties' views on the benefits and flaws of each. That discussion is followed by the more specific review of the studies' mechanics and inputs. At issue is the Board's need to identify and adopt a reasonable and appropriate means of establishing the cost-based and non-discriminatory rates to be charged for UNEs to be provided by Verizon NJ.

### **Positions of the Parties**

As previously noted, there were two recurring cost models and studies presented by the parties: (a) Verizon NJ Cost Model, and (b) HAI Model. Each model developed costs for the local loop and switching components including the port and end-office switching. Both models are highly complex software-based analytical tools consisting of numerous modules and spreadsheets that process data that is used to arrive at the resulting costs. They calculate loop rates based on three geographically deaveraged density cells, as well as a statewide average. The HAI Model has an option to increase or decrease the number of density cells based upon the number of lines per square mile. The VNJ Model is described as a study that estimates the forward-looking costs that VNJ actually anticipates that it would incur as an efficient carrier providing service in New Jersey. (IT 4). The HAI Model is described as a bottom-up economic engineering costing model, which estimates the costs that an efficient firm would incur in provisioning UNEs. (AT&Tb at 35).

In many respects, the VNJ recurring cost models employ methodologies and assumptions that are generally consistent with those that were relied upon by Verizon NJ in the cost models that we analyzed in the Generic Order. Similarly, although the HAI Model has been updated from the Hatfield Model Version ("HM") 2.2.2, analyzed by the Board in the Generic Order, many of its characteristics and underlying assumptions are the same. We note, however, that the updated HAI Model produces cost estimates that are substantially lower than those produced by the HM 2.2.2 that we found in the Generic Order to unreasonably understate costs.

According to their sponsors, each of the models purportedly follows the TELRIC methodology promulgated by the FCC in its First Report and Order. The parties, therefore, all share a common goal, *i.e.*, to calculate forward-looking costs for interconnection and unbundled elements. However, while the models contain some similarities, they produce varying results due in large part to their differing input assumptions.

### **Verizon NJ Position-Verizon NJ Cost Model**

Verizon NJ asserted that it prepared several dozen detailed and comprehensive cost studies that identified the forward-looking costs that an efficient local exchange company in New Jersey would incur when providing UNEs. (VNJb at 14). According to Verizon NJ, these studies were designed to identify the recurring and non-recurring costs associated with the provision of over 150 network elements. (*Ibid.*). Verizon NJ provided the following general descriptions of the various recurring cost studies that comprised its model:

- Unbundled Loop - 2 Wire, 4 Wire, BRI, Digital 4 Wire, Distribution Unbundled Subloop, DS1 (Exh. VNJ 26, Vol. 1-6 (Exhs. A&B)).

The unbundled loop studies set forth the cost associated with the provision of two wire, four wire, BRI, Digital 4 Wire, and Distribution subloop. The unbundled loop costs were calculated using the UAAA Model and the LCAM Model. The UAAA model develops loop costs based upon the anticipated physical characteristics of the outside plant network. The output of the UAAA Model, *i.e.*, information regarding the size and cost of certain outside plant facilities, is then input into the LCAM Model. The LCAM Model, a Verizon spreadsheet model, then calculates the total forward-looking loop cost per month, for each wire center, using the output from the UAAA, loop electronic equipment information, utilization capacities, and structure investment factors.

[VNJb at 15.]

- Network Interface Device (NID) DSI, NID (Exh. VNJ 25, Vol.7-8 (Exh. C)).

This study estimates the monthly costs incurred to provide Network Interface Devices ("NID"). A spreadsheet model was utilized to develop the equipment and material costs, investments and the telephone company labor costs incurred in placing a NID.

[VNJb at 15-16.]

- Dark Fiber (Exh. VNJ26, Vol. 9 (Exh. D)).

The dark fiber cost study sets forth the costs for access to dark fiber, which is defined as a spare, unlit continuous fiber optic strand within an existing in place cable sheath. A spreadsheet model was used to develop the forward-looking investment for fiber cable and the associated structure costs. Annual cost factors were then applied to determine monthly costs.

[VNJb at 16.]

- House and Riser (Exh. VNJ 26, Vol. 10 (Exh. E)).

This study identifies the costs associated with the provision of access to house and riser cable, which is cable within a multi-story building. A spreadsheet model was used to calculate the network, engineering and installation costs.

[VNJb at 16.]

- Unbundled Port; POTS, DID, ISDN, Coin Part, SMDI, DS 1, IDLC Analog Dedicated Trunk and Dedicated Tandem (Exh. VNJ 26, Vol. 11-18 (Exh. F)).

The Unbundled Port studies set forth the costs associated with Verizon NJ's provision of a port on Verizon NJ end offices and tandem switches. The primary cost components of the unbundled port include the main distribution frame, cabling to the switch, line cards, and non-recurring service order related activities. The investments for the unbundled switch are calculated primarily by the Telcordia Switching Cost Information System ("SCIS") model. Engineering, furnishing and installation ("EF&I"), power and land and buildings loadings are added and the investments are then converted to monthly costs.

[VNJb at 16.]

- Unbundled Switching - Usage (Exh. VNJ 26, Vol. 19 (Exh. G-1)).

The Unbundled Switch Usage study identifies costs for end office switch usage including vertical services. Verizon NJ's unbundled end office vertical service switching element provides CLECs with the capability to access vertical service features. Usage costs are displayed as originating and terminating on a minute-of-use basis. Originating usage represents the costs to the call initiator at the Verizon NJ end office and terminating usage represents the costs of the call terminated at the Verizon NJ end office. The SCIS model was utilized to develop the end office switching costs.

[VNJb at 16.]

- Transport and Termination (Common and Dedicated) (Exh. VNJ 26, Vol. 20-23 (Exh. H-1 to H-6)).

The Transport and Termination Study identifies costs associated with the transmission and switching of traffic from a CLEC to Verizon NJ end offices.

Interoffice trunk facilities are used to carry a call from the originating end office switch to either a tandem switch or to a terminating end office switch. Interoffice trunk investments are calculated based on material prices, including EF&I and interoffice facility electronics equipment. The tandem investments were determined based upon application of the SCIS model.

[VNJb at 16-17.]

- STP Port Termination & Signaling Database (Exh. VNJ 26, Vol. 25-27 (Exh. I-1 to I-3)).

This cost study identifies the costs for the Signaling System 7 (“SS7”) network, which is used to send control information to switches about setting up and releasing facilities that are used to originate and terminate interoffice calls. The SS7 costs were developed using the Common Channel Signaling Cost Information System (“CCSCIS”) Model. The CCSCIS Model was used to determine the STP termination investment. The STP unbundled port termination allows carriers to directly connect to Verizon NJ’s SS7 network to provide SS7 signaling for the entire set up of a call. Recurring costs associated with access to database for line related database queries are also included in this analysis.

[VNJb at 17.]

- CLEC Customized Routing (Exh. VNJ 26, Vol. 29 (Exh. J)).

This study estimates costs of allowing CLEC resellers the ability to route their end users’ OS/DA [Operator Service/Directory Assistance] calls to their own designated platform. The costs per call are developed based upon the Telcordia SCIS model.

[VNJb at 17.]

- Daily Usage File (Exh. VNJ 26, Vol. 30 (Exh. K)).

The Daily Usage File service cost study identifies the costs associated with providing a CLEC access to billing service files containing records of intraLATA local and toll usage detail for billing of services to end users. The costs represent the cost incurred to duplicate and send daily usage file data by either magnetic tape, a CD (or disc), or electronically.

[VNJb at 17.]

- AIN Service Creation (Exh. VNJ 26, Vol. 32 (Exh. M)).

This study estimates the cost of allowing CLECs access to Verizon’s AIN service creation software so that CLECs may develop and modify AIN services. The study uses SCIS and a spreadsheet analysis to convert the estimate into a monthly cost for access per port.

[VNJb at 17.]

- Line Sharing/Splitter (Exh. VNJ 26, Vol. 32-33 (Exh. N-1 and N-2)).

These studies estimate the recurring costs associated with a CLEC's placement of relay racks and splitters in connection with the provision of line sharing, i.e., the ability to provide voice grade and data services over the same loop. A spreadsheet model is used to determine investment and EF&I which is used to determine the maintenance and administration of the splitter which is then converted to a monthly cost.

[VNJb at 18.]

- xDSL Conditioning and Qualification (Exh. VNJ 26, Vol. 35 (Exh. O)).

This study estimates the recurring costs and non-recurring costs associated with the manual and mechanized loop pre-qualification.

[VNJb at 18.]

- Modified Expanded Extended Loop (EEL) (Exh. VNJ 26, Vol. 36 (Exh. P)).

This study is a spreadsheet analysis that estimates the recurring costs associated with testing equipment used to test the circuits in the network for UNE loops included in the EEL [Expanded Extended Loop] arrangement.

[VNJb at 15-18.]

Verizon NJ argued that despite the use of what it terms "element specific" models and studies, the general methodologies, assumptions, and approaches employed in all of the Verizon NJ cost studies are consistent with one another. (VNJb at 15). Verizon NJ also argued that its cost studies and pricing recommendations are fully TELRIC compliant and the studies do not include embedded costs. According to Verizon NJ, its cost studies are based upon forward-looking, long run incremental costs based upon reasonably deployable forward-looking technology and engineering guidelines that would be used by an efficient carrier providing UNEs in New Jersey. (VNJb at 12).

Additionally, Verizon NJ asserted that it relied principally upon the same basic methodology and concepts underlying its studies in the earlier phase of this proceeding, which was premised on the general philosophy that the technology utilized should be the current, most efficient actual methods and practices developed by engineers for use in forward-looking investment decisions and construction. (VNJb at 12-18). Verizon NJ explained that it updated its studies from those considered in the Generic Order to include more current information and modified its study to address certain prior findings by the Board. (VNJb at 18). Verizon NJ submitted that "[t]hose

modifications include the use of current data for the development of investment and expenses, including revised capital costs, fill factors, cable costs, labor rates, common overhead, investment lives, and switch cost vendor discounts. These changes also include the introduction of technology that was not included in Verizon NJ's prior study and the use of the New Jersey Estimate Program ('NJEP') to estimate cable investments." (Ibid.).

In response to allegations that Verizon NJ's studies include embedded costs, Verizon NJ claimed repeatedly that all of the cost assumptions in its study estimate forward-looking costs and "none of the cost assumptions in the study are based upon costs incurred in the past or recorded on Verizon NJ's books." (VNJrb at 21). In addition, Verizon NJ stated that its "consideration of the actual costs of equipment it purchases to help estimate forward-looking costs is reasonable and consistent with the Local Competition Order's directive to base forward-looking cost estimates on the best information available. Verizon NJ maintained that common sense dictates that one of the best ways to assess forward-looking costs is to review current costs and then take into consideration anticipated changes." (Id. at 22). Based on its model, Verizon NJ recommended that the Board find that the statewide average UNE loop cost is \$16.18.

### **Advocate Position - Verizon NJ Cost Model**

The Advocate argued that the VNJ Model failed to comply with the TELRIC methodology because it is "based in an embedded, not forward-looking, network design." (Ab at 23). The Advocate stated that "[e]ven if it were proper to begin with current practices, Verizon-NJ failed to make sufficient adjustments for its study to be forward-looking." (Id. at 26). Although the Advocate argued that the VNJ Model using Verizon NJ's input assumptions does not generate TELRIC-compliant rates, it recommended that the Verizon NJ Model be used by the Board after identifying "the changes to the assumptions and inputs necessary to enable the Verizon-NJ model to move toward rates that are in an acceptable TELRIC range." (Id. at 5). The Advocate thus proposed a substantial number of revisions to the Verizon NJ Model's input assumptions, including the following: cost of capital, depreciation rates, digital loop carrier assumptions, distribution fill factors, costs for poles and outside plant structure costs, including the sharing of outside plant structures. Based upon the adjustments to the Verizon NJ Model proposed by the Advocate, the Advocate recommended the adoption of a statewide average loop rate of \$9.79,

rather than the \$16.18 statewide average cost resulting from Verizon NJ's study. (Ab Appendix).

### **AT&T Position - Verizon NJ Cost Model**

AT&T argued that Verizon NJ's cost models perpetuate virtually all of the major defects in BA-NJ's UNE cost studies of 1997 [because] VNJ has based its forward-looking vision on its existing embedded network." (AT&Tb at 41). AT&T also alleged that VNJ relied upon "unsubstantiated assumptions or unrepresentative data that fail to produce reliable estimates even of VNJ's embedded costs." (AT&Tb at 41). Although AT&T claimed that more reasonable values could be substituted for some of Verizon NJ's inputs and assumptions, it claimed that several inputs and assumptions were uncorrectable "because the correct values are unknown or the relevant model algorithms are hard-wired and unadjustable." (*Ibid.*). AT&T also asserted that Verizon NJ "has selectively updated its cost studies to yield significantly higher unit costs" and "abandoned a key forward-looking assumption from its initial UNE filing: the use of next generation digital loop carrier ('NGDLC') for all loops exceeding the copper/fiber breakpoint." (*Id.* at 40). Thus, AT&T argued that the Verizon NJ's recurring cost studies could not be relied upon by the Board to establish UNE rates. AT&T, although critical of Verizon NJ's Cost Model, re-ran Verizon NJ's model making numerous adjustments to the models, including substantially revising the input assumptions<sup>18</sup> in the models, and argued that its re-run of the Verizon NJ's Model with changes to the model and its assumptions validated the results of the HAI Model. (AT&Tb at 67).

### **WorldCom Position - Verizon NJ Cost Model**

WorldCom, like the Advocate, argued that although certain aspects of the VNJ Model violated TELRIC because it reflected "obsolete network design and technology," the Board should use the Verizon NJ Model after making adjustments to several enumerated inputs and assumptions. (WCb at 17). WorldCom proposed, among other things, the following changes to the Verizon NJ Model: digital loop carrier technology assumptions; fill factor assumptions; depreciation rates; cost of capital; annual cost factors; and usage and utilization assumptions for switching cost results. Based upon its revised input assumptions, WorldCom recommended that the Board adopt a statewide average UNE loop rate of \$6.89. (Wcb at attachment 1).

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<sup>18</sup> Input assumptions are discussed infra in Section (c).

## **AT&T Position-HAI Cost Model**

AT&T asserted that the HAI Model, like earlier versions of the Hatfield Model, “is a bottoms-up costing model” that “estimates in a consistent fashion the costs that an efficient firm would incur to provide unbundled network elements, universal services, and interconnection services.” (AT&Tb at 35). AT&T described the HAI Model as proceeding in seven steps. (*Ibid.*) “First, it determines the amount and location of current demand for local exchange service, network elements, and network interconnection for the Incumbent Local Exchange Carrier (‘ILEC’) and jurisdiction under study.” (*Id.* at 35-36). “Second, the Model groups, or ‘clusters’, adjacent customers, and associates those clusters with serving areas that can be efficiently served by available local exchange technology.” (*Id.* at 36). “Third, based on the forward-looking network architecture being deployed by incumbent LECs today, the Model determines the amounts of various network components needed to support the known demand for the elements and services in question.” (*Id.* at 36-37). “Fourth, using public information and opinion from subject matter experts on the availability, capacities, and costs of network assets and facilities available in the marketplace today, which are provided to it through user inputs, the Model estimates the investment required to purchase and deploy the requisite quantities of each identified component considering detailed engineering design, material, and labor.” (*Id.* at 37). “Fifth, the Model determines the cost of operating and maintaining the network, taking into account all relevant capital carrying costs, network operations, maintenance, customer operations, and corporate overhead costs (with forward-looking adjustments where appropriate).” (*Ibid.*). “Sixth, the Model calculates per-unit UNE costs, network interconnection costs, and the cost of universal service.” (*Id.* at 38).

AT&T maintained that the HAI Model “is more sophisticated, precise and flexible” than its predecessor HM 2.2.2 previously submitted by AT&T and rejected by the Board. (AT&Tb at 39-40). Specifically, AT&T argued that the HAI Model addressed every concern that the Board had expressed about the HM 2.2.2. For example, AT&T explained that it abandoned many aspects of the HM 2.2.2 and that the HAI Model “dramatically improved the method of determining customer locations and configuring outside plants to serve those customers.” (*Id.* at 40).

Based on the HAI Model, AT&T recommended that the Board establish a statewide average UNE loop rate of \$6.58. In addition, AT&T proposed in its initial brief that the rate be discounted

to reflect what it described as a “Trust Busting Discount for those elements necessary for the UNE platform.” (AT&Tb at 5-7). The concept of AT&T’s “Trust Busting Discount” is discussed later.

### **Verizon NJ Position-HAI CostModel**

Verizon submitted testimony setting forth substantial criticisms of the HAI Model. Verizon NJ argued that the HAI Model, although purporting to correct the errors in the prior HM 2.2.2 version, “substantially understates forward-looking costs and cannot be used to establish cost based rates as required by TELRIC and Section 252 of the Act.” (VNJb at 23). Verizon NJ argued that although the Board previously had rejected the Hatfield Model, Version 2.2 and found that it could not produce reasonable cost estimates for UNEs to be provided in New Jersey, “[r]ather than revising the model to include more realistic assumptions the Hatfield Model 5.2a results in cost estimates almost 40% lower than the Hatfield Model, Version 2.2.” (VNJb at 26). Verizon NJ also argued that while AT&T relied upon a Minnesota Public Utilities Commission decision<sup>19</sup> adopting an earlier version of the Hatfield Model, numerous other jurisdictions have rejected the Hatfield Model, including a recent rejection by the New York Public Service Commission of the current version of the Hatfield Model.<sup>20</sup> (VNJrb at 31).

Verizon NJ further argued that “not only is AT&T’s most recent version of the model deficient, it is even less reliable than Version 2.2.2 because, among other things, it continues to be a result-oriented model that (a) ignores basic engineering principles, (b) fails to include sufficient facilities to provide service, (c) is based upon unsubstantiated cost estimates, (d) contains confusing and incomprehensible algorithms, and (e) disregards the geocoding data which AT&T attempts to convince the Board it relies upon to determine loop lengths.” (VNJrb at 24-25). In addition, Verizon NJ asserted that the Model’s “input assumptions have little to no relationship with New Jersey costs” (VNJb at 24) and, for example, include unsubstantiated vendor “estimates” from other states. (VNJrb at 27-28).

Verizon NJ identified the following as some of the deficiencies affecting the HAI Model:

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<sup>19</sup> Minnesota Public Service commission USF Decision (June 4, 1998).

<sup>20</sup> NY PSC opinion No. 97-2, 1997 WL244288 (N.Y.P.S.C. April 1, 1997), p.116

- the Model has not been proven to perform accurately in the manner intended by its sponsors, such as the manner in which distribution plant is designed, which is attributable in part to the closed nature of the method and which the “PNR process” is used to develop loop length estimates.
- the HAI Model’s output has never been validated by AT&T, the developers of the HAI Model, or anyone else against any real world data.
- key sections of the Model’s design of distribution serving areas are proprietary and not available for meaningful inspection.
- the HAI Model excludes by design the significant, unavoidable costs of growth, customer movement, and network rearrangement that must necessarily be incurred to operate a real network.
- the HAI Model uses flawed estimating methodologies regarding the amount of and type of equipment and facilities necessary to provide service in New Jersey.
- its distribution and feeder design are not based on reasonable engineering assumptions.
- the “default” input values are not realistic and not related to New Jersey.
- the “structure” cost and sharing assumptions are understated.
- the mix of aerial, buried and underground facilities is unsubstantiated.
- the interoffice facility assumptions are not based on reasonable engineering principles.

[VNJb at 27-28].

Verizon NJ also argued that the HAI Model is not TELRIC-complaint because “it is premised upon the artificial assumption that a brand new, fully functioning network is dropped into place at a single point in time -- a network that never had to experience any growth to satisfy the current level of demand.” (VNJb at 29). Verizon NJ alleged that such a “premise causes the Hatfield Model to exclude, by design, unavoidable costs of growth and churn that even the most efficient carrier will necessarily incur in providing UNEs.” (*Ibid.*). Verizon NJ maintained that “there is no evidence in the record, and certainly no substantial evidence, upon which to conclude that the Model’s hypothetical construct reliably and reasonably estimates Verizon NJ’s efficient, forward-looking costs.” (VNJb at 31).

Verizon NJ also argued that the unrealistic nature and substantially understated cost estimates in the HAI Model are revealed by a comparison of the total “forward-looking” investment from

the HAI Model to construct an entirely new network to serve all residential and business lines in New Jersey (including all buildings, central office switches, end office switches, tandem switches, structures, cables, trunks, underground conduits) to expenditures made by Verizon NJ in a single 18 month period operating under business as usual for construction and improvements to its facilities, i.e., not reconstructing its entire network from scratch, which alone represent almost one-half of the Hatfield Model investment to construct the entire network from scratch. (VNJb at 25; VNJrb at 37). Although Verizon NJ acknowledged that TELRIC costs may be less than actual costs, it argued that a comparison of actual expenditures to just maintain and upgrade an existing network is a meaningful -- real world -- way to evaluate the reasonableness of the HAI Model investment estimates to reconstruct an entire network.

### **Advocate Position-HAI Cost Model**

The Advocate argued that the HAI Model failed “to use TELRIC-compliant inputs and assumptions, and therefore fails to generate TELRIC rates.” (Ab at 4, 29). Specifically, the Advocate argued that “the AT&T model fails to comply with TELRIC because it is too speculative in that it “assumes an idealized network that is not necessarily attainable in any forward-looking environment.” (Id. at 29). Furthermore, the Advocate argued that, contrary to the VNJ Model, “there is little evidence of corrections to the AT&T cost model that would generate rates within that [TELRIC] range.” (Id. at 5). The Advocate concluded that “the Board should not base rates on the AT&T model.” (Ibid.)

### **Board Discussion - Cost Model Selection**

After careful review of the models presented by the parties, the testimony of the witnesses sponsoring the models including the input assumptions to the models, and the testimony of witnesses criticizing certain aspects of the models, the exhibits, and the briefs of the parties, the Board finds that the Verizon NJ Model most closely approximates the concepts it supports related to a forward-looking costing methodology and provides the appropriate starting point for our analysis. In arriving at our decision, we concur with Verizon NJ and others that suggest that the HAI Model failed to use TELRIC-compliant inputs.

While the HAI Model has been revised for use in this proceeding, we are generally concerned with its methodology in several regards. Chief among our concerns is a fact pointed out by Verizon NJ that revealed that the HAI model assumes that Verizon’s entire network could be

constructed for less than one-third of Verizon NJ's existing investment and that it could be operated for approximately one-fifth of Verizon NJ's current operating expenses. (VNJb at 25). Although we recognize that forward-looking investment and operating costs are likely to be less than embedded or current costs, the substantial nature of the difference between the HAI cost estimates and Verizon NJ's actual experience is indeed dramatic and suggests to the Board that the HAI Model may potentially understate forward-looking costs.

In addition, we are concerned with other aspects of the model that were raised by Verizon NJ. In particular, one assumption increased total cable route feet by 40%, but was then offset by a corresponding reduction of approximately 70% of the average unit cost of support structures. Moreover, we are alarmed by the results of the HAI Model's clustering algorithm that were relied upon in the model to locate customers and hence to establish cable lengths. In its review of the model, Verizon exposed an anomaly that revealed the existence of a single high rise building in any cluster that has more than 30,000 lines in an area of less than three hundredths of a square mile. According to the Company, in such instances, the model assumes that all the necessary distribution cable consists of riser cable inside the high-rise building. More significantly, however, the model assumes that the entire amount of cable required is two cables of fifteen feet each for each floor. In certain situations, this assumption results in buildings that are several hundred, and sometimes several thousands, stories tall. In such instances, the model arbitrarily assumes that cable is only necessary to reach the first fifty floors. (See Exh. VNJ 6, p. 58). Verizon NJ concluded, and we concur, that such shortcomings result in a substantial understatement of cable costs necessary to serve the customers assumed to be located in buildings of fifty floors or more. For the foregoing reasons, we DECLINE to consider the HAI Model for use in establishing UNE rates.

While we are adopting the Verizon NJ Cost Model, we believe that it is necessary to significantly modify many of its inputs and assumptions to produce true TELRIC-compliant results as suggested by various parties. With the exception of AT&T, the parties that have participated actively on cost model issues all recommend that the Verizon NJ's cost models be used by the Board. However, as the Advocate, AT&T, WorldCom and others recommend that substantial revisions be made to the cost model input assumptions relied upon by Verizon NJ to produce proper forward-looking results. These input assumption changes recommended by WorldCom, the Advocate, AT&T, and others are discussed in detail later in this section. As several of the

parties recognize, the selection of the appropriate input value assumptions in a cost model may be more important than the selection of a particular model.

We find that the Verizon NJ models are based upon sound engineering principles and sound modeling concepts. While AT&T has demonstrated that similar results may be obtained by varying the inputs and assumptions contained in its model, we find that it is more appropriate to modify the Verizon NJ models to produce forward-looking, TELRIC-compliant results because its basic construction more accurately replicates VNJ network, whereas the HAI Model employs a methodology designed to create a least-cost, most efficient network without regard to realistic design considerations. As such, we find that fewer modifications will be necessary to produce TELRIC-compliant results. As will be detailed in the pages that follow, the Board's own criticisms in the Generic Order have been adequately addressed by Verizon NJ. In addition, many of AT&T's criticisms are addressed through the Board's modifications to the Verizon Cost Model, e.g., revised inputs and assumptions to address concerns that embedded data is being used and the adoption of reasonable digital loop carrier assumptions, which addresses AT&T's concerns that Verizon abandoned what it described as a key forward-looking assumption, i.e., the use of next generation digital loop carrier.

In the Generic Order, we evaluated Verizon NJ's cost models which were principally the same as those relied upon here. At the commencement of this phase of the proceeding, the Board requested that the parties update their cost models and studies and respond to criticisms in the Generic Order of each party's cost studies. In the Generic Order, the Board identified certain concerns associated with the Verizon NJ models that caused the Board to not rely exclusively upon those models. Those concerns were:

- Verizon NJ's model should not use cable costs from its Vintage Retirement Unit Cost ("VRUC") database;
- Verizon NJ's model did not locate the feeder/distribution interface at the "actual location" of the serving area interfaces ("SAIs") in Verizon NJ's network;
- Verizon NJ's study used a single structure for an entire feeder run; and
- Verizon NJ assumed that the average distribution cable length is one-half of the longest distribution length in each of the 6,800 Ultimate Allocation Areas ("UAA") in the State.

In its filing in this proceeding, Verizon NJ addressed each of the above concerns identified by the Board. For cable cost estimates, Verizon NJ relied upon a new data source. Rather than use the VRUC database costs for its Cost Study, Verizon NJ developed its cable costs based upon an engineering forecasting tool known as the New Jersey Estimate Preparation (“NJEP”) program. The NJEP is used by the engineering department to forecast the costs associated with large construction jobs. (Ex. VNJ 23, MSP-2, p. 5). Verizon NJ engineer Donald Albert testified that the average job for the NJEP is approximately \$1,000,000. (9T2120-21). Because the NJEP is based upon cost estimates for future construction and because it deals with larger jobs where economies of scale and efficiency can be captured, we find that the use of this forecasting tool is a reasonable way to estimate forward-looking cable costs. Our concern regarding Verizon NJ’s prior use of its VRUC database was that the VRUC database contained cost information for all cable installations including small -- and possibly inefficient -- cable projects. Because the NJEP focuses on large jobs and because the NJEP is a forward-looking planning tool, the basis for our prior concern about the costs of smaller cable jobs not reflecting efficient costs has been eliminated.

Similarly, our prior concern expressed regarding the location of the feeder/distribution interface at its actual location in Verizon NJ’s network has also been alleviated as a result of Verizon NJ’s further explanation of the basis for, and the effect of, this assumption. In the Generic Order, the Board expressed concern that because Verizon NJ’s model did not attempt to identify the exact location of feeder/distribution interfaces, the cost study might understate the length of the feeder for certain loops and overstate the length for others. Generic Order at 66-67. In its filing in this proceeding, Verizon NJ explained that its cost study purposefully does not attempt to locate the feeder/distribution interface at the actual locations in the embedded network. Verizon NJ stated that its cost study attempts to determine the forward-looking cost that an efficient carrier would incur to provide UNEs in New Jersey and that the feeder/distribution boundary is modeled to represent deployment of a forward-looking architecture, rather than the embedded network design. (Exh. VNJ 23, p. 12). As a result of the utilization of more efficient network designs, the Verizon NJ Cost Model places serving area interfaces (i.e., the feeder/distribution interface) closer to customers than they are in the actual network today. The net result of these efficient network assumptions is that the feeder lengths are presumed to be longer than they are in the embedded network, and the distribution lengths are presumed to be shorter than they are in the embedded network. Since, in general, distribution is more costly than feeder, the loop costs in

the Verizon NJ Cost Study are expected to be lower than if Verizon NJ were attempting to locate the feeder/distribution interfaces at their exact location in the embedded network. Thus, as a result of locating the feeder/distribution interfaces based upon forward-looking engineering design principles, the Verizon NJ Cost Study results in cost estimates that would be lower than those produced based upon an embedded network architecture.

The Board finds that Verizon's explanation regarding the location of its feeder/distribution interfaces in its cost models is reasonable. Based upon TELRIC, the feeder/distribution interface should reflect an efficient design. We find that Verizon NJ's assumption regarding feeder/distribution interface location is reasonable and fully consistent with a forward-looking cost approach. Also of critical importance is Verizon NJ's assumption that increases the use of digital loop carrier in its design of a forward-looking network. Combined with the placement of the feeder/distribution interface, this assumption directly impacts the forward-looking cost calculation. The location and hence length of feeder is integrally linked to digital loop carriers. While we agree with Verizon NJ's location algorithm, we later find it necessary to modify its digital loop carrier assumption. (See infra at Section III (o)(v)).

With regard to the Board's prior finding that Verizon NJ's cost study assumed a "single structure" would be used for an entire feeder run (Generic Order, at 66), Verizon NJ has explained that the Board's understanding was incorrect. Verizon NJ stated that, in the Generic Proceeding, it failed to explain properly the manner in which its model determined the structure to be used for feeder runs. In its updated filing, Verizon NJ explained that its study assumed that each segment for any ultimate allocation area ("UAA") has one predominant feeder structure. However, from the central office to a customer's location there may be several UAAs. Thus, a feeder run, which often consists of multiple UAAs, may also consist of a mix of structures, depending upon the particular structure assigned to each UAA. (Ex. 23, MSP) The Board notes that Verizon failed to properly explain this assumption during the prior phases of this proceeding. However, based upon Verizon NJ's description of its cost model and the Board's analysis of the underlying work papers of the VNJ Model, the Board finds that the VNJ Model does not assume a single structure for entire feeder runs.

After consideration of additional information provided by Verizon NJ regarding the basis for calculating the average distribution cable length in each UAA, the Board also finds Verizon NJ's methodology to estimate distribution loop lengths is reasonable, and most likely results in an

understatement of total distribution cable length, thereby not disserving CLECS. Verizon NJ asserted that based upon an analysis that it has performed in other states, actual embedded distribution plant is 20-30% greater than that calculated based upon the Verizon NJ Model's assumption that the average distribution length should be equal to one-half of the longest distribution length. (Exh. VNJ 23, p. 13). Verizon NJ's assumption is merely a simplifying assumption necessitated by the complexity of measuring the actual length of distribution facilities in the 6,800 UAAs modeled. In light of that analysis and testimony, we find that this assumption is a reasonable way to determine the overall average distribution length in each of the Company's 6,800 UAAs. Moreover, because this assumption is based upon 6,800 relatively small geographic areas, the assumption captures the characteristics of each area and provides a reasonable, reliable and conservative estimate of the average distribution segment of loops in each UAA.

For the foregoing reasons, we find that Verizon NJ has adequately addressed the concerns that the Board identified in the Generic Order regarding the Verizon NJ Cost Study itself. We further find that the Verizon NJ loop study properly assumes that wire centers would be located at their existing locations but that each loop must be redesigned and reconstructed based upon forward-looking and efficient cost assumptions. Although in order to determine loop length and structure mix, Verizon NJ takes into consideration characteristics of its outside plant in each UAA, it does not develop its cost estimates based upon embedded costs. In connection with making a decision regarding cost model assumptions for reconstructing the local network, the consideration of the layout and characteristics of the existing network is a reasonable starting point. This is particularly true in light of the fact that customer locations, street locations, central office locations, natural barriers and right-of-way locations will not change significantly. For the foregoing reasons, we agree with all of the parties, with the exception of AT&T, that the appropriate model to utilize to determine forward-looking costs for the provision of UNEs in New Jersey is the Verizon NJ Cost Model. However, the input assumptions for the VNJ Model, which are critical to the results produced by the Model, are discussed hereafter.

### **C. Input Issues Affecting All UNEs**

#### **Statement of the Issue**

Many cost study key input assumptions, such as the cost of capital, depreciation lives, common costs, and utilization levels, affect all UNE cost estimates. The record in this proceeding clearly

indicates that the costs produced by both the VNJ Model and HAI Model are strongly influenced by the inputs to those models. Having determined that the Verizon NJ Model should be relied upon to estimate recurring UNE costs, we begin our discussion here by providing a general description of each of the various parties' specific input recommendations. At issue is the Board's need to identify and adopt reasonable and appropriate inputs to be used to establish cost-based and non-discriminatory UNE rates based upon the prescribed TELRIC principles articulated by the FCC.

## **Positions of the Parties**

### **1. Cost Of Capital**

The cost of capital is comprised of the following three input factors: (1) cost of equity; (2) cost of debt; and (3) the appropriate capital structure. The cost of capital affects all recurring and non-recurring costs.

Verizon NJ witness Dr. James H. Vander Weide supported Verizon NJ's proposed risk-adjusted cost of capital of 12.6%. To check the reasonableness of Verizon NJ's proposed 12.6% cost of capital, Dr. Vander Weide calculated an independent cost of capital range of 13.33% to 13.68%. (VNJb at 34). Dr. Vander Weide's capital structure breakdown consisted of a range of 75%-80% equity with a return of 15.01%, and 20%-25% debt with a cost rate of 8%. (*Ibid.*). Dr. Vander Weide's equity analysis consisted of performing a discounted cash flow ("DCF") analysis of what Verizon NJ described as a group of 400 publicly traded competitor companies from the Standard & Poor's ("S&P") industrials. According to Dr. Vander Weide, this group approximates the business risks that Verizon NJ faces in providing unbundled network elements. (*Id.* at 35). In support of his analysis, Dr. Vander Weide asserted that "the level of competition for unbundled network elements is expected to increase dramatically in the future." (*Id.* at 36). To estimate cost of debt, Dr. Vander Weide relied on the 8% average yield to maturity on Moody's A-rated industrial bonds for June 2000. (*Id.* at 42). Overall capital structure was determined by examining the capital structure data of three groups of companies, including the proxy group of 400 S&P industrial companies used in his equity analysis, and local exchange companies and interexchange companies included in the S&P industrials. (*Id.* at 43).

Advocate witness James Rothschild recommended a cost of capital of 8.8%. (Ab at 35). Mr. Rothschild's proposed capital structure, which was based on Bell Atlantic's 1998 consolidated book capital structure, consisted of 8.82% short-term debt with a cost rate of 7%; 52.12% long-term debt with a cost rate of 8.25%; 0.59% of preferred stock with a cost rate of 8%; and 38.47% of common equity with a 10% return. (Id. at 42-43). Mr. Rothschild estimated Verizon NJ's equity cost by performing a DCF analysis that utilized Value Line data and then examined Verizon current dividend yield and assumed growth to arrive at an estimated cost of equity. Next, in an effort to reduce any possibility of upward bias, he utilized an inflation risk premium capital asset pricing model ("CAPM") and averaged the results. The results of the analysis yielded a 10% cost of equity. (Id. at 40-42). Mr. Rothschild relied on "A" rated utility debt to estimate Verizon's forward-looking debt resulting in an 8.09% debt rate. (Id. at 42). The Advocate also proposed that the Board use the consolidated capital structure of the parent company, Verizon and adopt Bell Atlantic's Consolidated Capital Structure of consisting of 60.94% debt and 39.06% equity. (Id. at 42-46). Based upon these parameters, the Advocate proposed an overall weighted cost of capital of 8.8%. (Id. at 43).

AT&T witness John I. Hirshleifer recommended a cost of capital of 9.54%. (AT&Tb at 78). Mr. Hirshleifer's capital structure breakdown consisted of 65.5% equity with a return of 10.42% and 34.5% debt with a cost rate of 7.86%. (Id. at 10; Exh. ATT 46, Attachment JH-3C). Mr. Hirshleifer identified a group of what he described as comparable publicly traded independent telephone companies to estimate the equity rate. He then used a three-step discounted cash flow methodology based upon future dividends for the comparable group and the capital asset pricing model to calculate a risk premium, which was added to the initial risk free rate of return calculated in the DCF analysis. (AT&Tb 77). Debt was calculated using what was described as the forward-looking debt costs incurred by Bell Atlantic (now Verizon Inc.). (AT&Tb at 76-77). To determine the debt/equity ratio, Mr. Hirshleifer used the ratios of the companies in his comparable group and determined the average market-weighted capital structure of the companies. He then selected the mid-point of the capital structures, which yielded a debt/equity ratio of 37%/63% (Id. at 77) and a weighted cost of capital of 9.54%. (Id. at 78).

**a. Cost of Equity**

## Verizon NJ Position

To estimate the cost of equity, Verizon NJ's witness Dr. Vander Weide "performed a discounted cash flow ("DCF") analysis on a group of publicly traded competitor industrial companies (the S&P Industrials)." (VNJB at 35). Verizon NJ argued that "[t]hese companies, on average, approximate the business risks facing Verizon NJ, as a provider of unbundled network elements" and "[t]he proper method for determining business risk for a provider of UNEs is to attempt to estimate a cost of equity for a company that only offers UNEs, even though no such company is publicly traded." (*Ibid.*). Further, Verizon NJ warned against the exclusive use of telephone holding companies as a comparison "because such a group: (1) does not face the unique risks associated with providing unbundled network elements; and (2) is too small to obtain statistically reliable results." (*Ibid.*).

As for the Advocate witness Rothschild's cost of equity recommendation, Verizon NJ argued that it should be rejected because Mr. Rothschild's DCF was calculated using erroneous data and was also applied to just one company. Verizon NJ explained that "Mr. Rothschild's DCF analysis was based solely on Value Line's October 6, 2000 report for Verizon," which reported an erroneous book value per share for Verizon. (*Id.* at 41). Verizon NJ recalculated Mr. Rothschild's DCF with what it claimed to be the correct book value per share and obtained a cost of equity of 20.31%. (*Id.* at 41-42). Verizon NJ concluded that the 1,000 basis point "differential amply demonstrates the invalidity of Mr. Rothschild's approach." (*Id.* at 42).

As to AT&T witness Hirshleifer's DCF calculation, Verizon NJ argued that Mr. Hirshleifer's group of comparable companies "is too small to obtain a statistically reliable cost of equity estimate" because it compared "Verizon to just two companies, SBC Communications and Bell South." (*Id.* at 38-39). In addition, Verizon NJ argued that Mr. Hirshleifer's DCF was flawed because: he should have used the quarterly DCF method because dividends are paid quarterly not yearly, which understated the cost of equity by 25 basis points; he did not include flotation costs, which resulted in the cost of equity being underestimated by 30 basis points; and he applied a multi-stage DCF by arbitrarily assuming that his comparable companies would grow at the Value Line growth rate for one year, the IBES growth rate for years 2 through 5 and then decline over a 15 year period to the expected growth of the GNP, which was completely arbitrary and has been rejected by the Massachusetts Department of Public Utilities. (*Id.* at 39-40).

Verizon NJ also argued that Mr. Hirshleifer's CAPM approach understated the cost of equity because, in part, "Mr. Hirshleifer's use of raw *betas* based on five years of historical data ending September 30, 1999 without adjusting for the well-known tendency of raw *betas* to converge over time to the overall mean beta of 1.0 greatly underestimated future risk." (*Id.* at 40). Verizon NJ stated that "[i]f Mr. Hirshleifer had used Value Line's *beta* estimate of .90 instead of his .66, his cost of equity estimate would have increased by 132 to 180 basis points." (*Ibid.*). Verizon NJ noted that Mr. Hirshleifer ignored the opinions of noted academicians, including Professor Ibbotson, in using the geometric, instead of arithmetic, mean and time periods dating back to 1802. (*Id.* at 40-41). Verizon NJ further argued that "[h]ad Mr. Hirshleifer used an arithmetic mean, a correct *beta* and the period from 1926 to the present, his methodology would have yielded a cost of equity of 14.3%." (*Id.* at 41).

### **Advocate Position**

The Advocate's witness Rothschild estimated a cost of equity of 10% by averaging its DCF analysis with an inflation risk premium/CAPM resulting in an equity rate of 9.96% that was rounded up to 10%. (Ab at 41; Exh. RPA 3, pp. 3-4). The Advocate argued that Verizon NJ's cost of equity recommendation was "far too high" and that the use of "a comparison group of S&P 500 companies" was improper. (Ab at 41). The Advocate asserted that "[a]t the very least, Verizon NJ could have limited its comparison to the other incumbent local exchange carriers providing the same elements in their respective service areas." (*Id.* at 42).

### **AT&T Position**

To estimate the cost of equity, AT&T's witness Hirshleifer selected a group of what he asserted were comparable, publicly traded, independent telephone companies. (AT&Tb at 76). To then estimate the cost of equity of the comparison group, he "used two alternative methodologies: (a) a three-stage DCF methodology based on the future dividends for the comparable group of companies identified in step one; and (b) the capital asset pricing model CAPM, in which he calculated a "risk premium" for the comparable companies (based on their price volatility in relation to other stocks), which he then added to a risk free rate of return." (AT&Tb at 77). AT&T argued that the single stage DCF model used by Verizon NJ witness Vander Weide was flawed because it "implicitly assum[es] that the above-average 3-5 year growth rates projected by I/B/E/S for the companies in his DCF comparison group will continue forever." (*Id.* at 80).

AT&T asserted that this assumption is an impossibility. (Ibid.). In addition, AT&T challenged Dr. Vander Weide's use of the S&P Industrials in his DCF analysis and argued that the "average risk of these businesses is clearly greater than the risk of the wholesale business of supplying unbundled network elements." (Id. at 86). AT&T also argued that the relevant risk for computing an ILEC's cost of capital is the risk incurred in the wholesale business of supplying UNEs, not the retail business of providing local service to end users, and the risk of provisioning UNEs is less than the aggregate risk of Verizon. (Id. at 91-93).

## **b. Cost of Debt**

### **Verizon NJ Position**

Verizon NJ noted that its witness Vander Weide "used the 8.00% average yield to maturity on Moody's A-rated industrial bonds for June 2000, as reported by Moody's Investors Service, as his recommended cost of debt," and it argued that this is a forward-looking cost of debt, which should be utilized. (VNJb at 42-43). Verizon NJ argued that the cost of debt used by AT&T witness Hirshleifer "should be disregarded because he relied on the embedded debt of all Bell Atlantic's debt issues (7.86%), rather than attempting to calculate a future cost of debt." (Ibid.) Verizon NJ also argued that Mr. Rothschild's debt recommendation was not forward-looking because it used short-term debt. (Ibid.)

### **Advocate Position**

In support of its cost of debt recommendation of 8.07%, Advocate witness Rothschild used "the interest rate of A rated utility debt." (Ab at 42-43).

### **AT&T Position**

AT&T witness Hirshleifer used a cost of debt of 7.86%, "based on the yields of Verizon's current debt issues." (AT&Tb at 10, 101). AT&T faulted Dr. Vander Weide for failing "to focus on the telephone industry, much less the business of selling unbundled network elements at wholesale to CLECs." (Id. at 102).

**c. Capital Structure (Debt/Equity Ratio)**

**Verizon NJ Position**

Verizon NJ witness Vander Weide proposed a weighted cost of capital structure range of 75% to 80% equity and 20% to 25% debt that “was determined by examining the capital structure data for three groups of companies: his proxy group of S&P Industrials; the local exchange companies included in the S&P Industrials; and the interexchange carriers in the S&P Industrials.” (VNJB at 43). According to Verizon NJ, Dr. Vander Weide confirmed the reasonableness of his capital structure ranges by conducting an analysis of the earnings before interest taxes, depreciation and allowances (“EBITDA”) for two groups of local exchange companies. (Id. at 44). Verizon NJ also argued that Mr. Hirshleifer’s criticism of Dr. Vander Weide’s multiples was baseless because if Dr. Vander Weide had used the “EBITDA multiples used to evaluate the wireline operations in the ALLTEL/Aliant and Bell Atlantic/GTE mergers” his “capital structure would have had more equity.” (Ibid.)

Verizon NJ argued that Advocate witness Rothschild’s capital structure should be rejected because it is a book, or embedded, capital structure that “is based on Bell Atlantic’s historic consolidated book capital structure from 1998, data that were nearly two years old at the time Mr. Rothschild filed his testimony.” (Id. at 45). With regard to AT&T witness Hirshleifer’s capital structure, Verizon NJ argued that it, too, was a “book, or embedded, capital structure” that must be rejected. (Ibid.) Verizon NJ noted that “[d]espite recognizing the principle of market weighted cost of capital and without citing any authority to support his methodology or rationale, Mr. Hirshleifer arbitrarily averaged the book and market capital structures for his sample companies.” (Ibid.). Verizon NJ argued that “The Board should reject AT&T’s and the RPA’s capital structures because they rely upon book, or embedded, capital structures.” (Id. at 47).

**Advocate Position**

The Advocate’s witness Rothschild proposed a capital structure, which was based on Bell Atlantic’s historic 1998 consolidated book capital structure and consisted of 8.82% short-term debt, 52.12% long-term debt, 0.59% of preferred stock and 38.47% of common equity. (Ab at 42-43). The Advocate argued that the “consolidated capital structure should be used because it

is not subject to manipulation.” (Id. at 43). In addition, the Advocate asserted that “[u]nlike Verizon NJ’s proposed market capital structure, the consolidated capital structure is an actual capital structure where full arms-length transactions between the public debt and equity investors is reflected.” (Ibid.). The Advocate also argued that “both the FCC and the Washington, D.C. Public Service Commission support the use of a consolidated capital structure in determining a company’s debt to equity ratio.” (Id. at 44).

### **AT&T Position**

AT&T witness Hirshleifer “determined a weighted average of the debt and equity costs by determining the average book capital structure (debt-equity) ratio of the companies in the group, and by determining the average market-weighted capital structure,” which resulted in a weighted capital structure of 65.5% equity and 34.5% debt. (AT&Tb at 77; Exh. ATT 46, Attachment JH-3C). AT&T argued that “[b]ecause the capital structure of enterprises devoted to the wholesale supply of unbundled network elements is not directly observable, Mr. Hirshleifer appropriately used the midpoint of the book-weighted capital structure and market-weighted capital structure of large local telephone holding companies as a surrogate for the market-weighted capital structure of a firm devoted solely to the wholesale supply of UNEs.” In opposition to Dr. Vander Weide’s capital structure recommendation, AT&T asserted that his use of the S&P 400 industrials is inappropriate “[b]ecause these companies are riskier on average, [and therefore] their capital structures contain on average more equity than would be efficient for a wholesale supplier of UNEs.” (Id. at 103).

### **Board Discussion-Cost of Capital**

As noted above, the parties to this proceeding have proposed a cost of capital that is in the 8.8%-12.6% range. (Ab at 35; AT&Tb at 78:). Specifically, the cost of capital recommendations were 8.8% for the Advocate, 9.54% for AT&T and 12.6% for Verizon NJ. To establish the cost of capital, we must determine the appropriate forward-looking cost of equity, cost of debt and capital structure.

One of the key determinants in arriving at an appropriate cost of equity is approximating the level of business risks associated with provisioning UNEs. The difficulty with such an undertaking, despite its apparent elementary nature, is that there are no publicly traded

companies exclusively providing UNEs. As a result, we must either utilize one of the approximation approaches proposed by the parties or develop our own. While Verizon NJ continues to argue that it faces ever-increasing market risks, those risks have not been borne out. The fact remains that Verizon NJ maintains complete control over its network and any market share losses to CLECs have come in the form of UNEs or resale, for which it is duly compensated. Verizon NJ remains as the primary supplier of local telephone service as both the retail and wholesale provider of service, and we anticipate that this will continue into the foreseeable future. In addition, Verizon NJ fails to account for the prospect of its eventual entry into the long distance market, which will certainly lessen and tend to offset any perceived risk it faces today.

The Board agrees with the parties that have pointed out that Verizon NJ's approach contains companies that offer goods and services that are far afield from the provisioning of UNEs. We disagree with Verizon NJ that its analysis is relevant to the provision of UNEs. Verizon NJ's approach is fundamentally flawed because it disregards its own data that is available to the Company. Many of Verizon NJ's inputs and assumptions in its models use its existing data as a starting point of its analysis and then attempts are made to make forward-looking adjustments. This would have been the appropriate methodology to utilize with regard to cost of capital, especially in light of the fact that Verizon NJ has been providing UNEs since shortly after enactment of the Telecommunications Act of 1996. In addition, other local telephone companies all across the country have also been providing UNEs. Economists acknowledge that financial markets are efficient in that they tend to reflect market changes today in anticipation of future events. That being the case, we believe that a properly constructed forward-looking cost of capital calculation should utilize existing data or that of other like-companies as a starting point.

Both AT&T and the Advocate attempted such an approach. AT&T recommends a 9.54% and the Advocate 8.8%. However, both approaches were criticized by Verizon NJ as not being forward-looking because they relied on inappropriate comparison groups or utilized embedded or historic data. In addition, Verizon NJ argued that the Advocate used incorrect data in its calculation. However, in the testimony of its witness, the Advocate explained that the selected book value declined due to a reduction in Verizon's stock price from \$53 to \$43( RPAETH.16 Rothchild at 31).

In view of the foregoing, the Board **ADOPTS** the Advocate's proposal as the appropriate forward-looking cost of capital. The Advocate's analysis was the most reasonable one contained in the record. As an initial matter, the Advocate relied upon Verizon NJ's parent company in determining its capital structure. While the parent company's capital structure differs from Verizon NJ's, the Advocate argued that the Board should consider the fact that "[i]t is unreasonable to assume that 'the regulated operations in New Jersey are more risky than the other businesses owned by [Verizon].'" (Ab at 44). For the purposes of our review of whole sale unbundled network elements, this is reasonable. In addition, we **FIND** that the Advocate's debt and equity analyses are superior to those proposed by the other parties. In calculating equity, the Advocate used both a Discounted Cash Flow method and risk premium/Capital Asset Pricing Model method. According to the Advocate, "[t]he DCF is popular because it examines the factors that provide an investor with a reason to initially purchase a stock [by analyzing] the current dividend yield and an estimate of growth." (Ab at 40.) Then in order to reduce any upward bias, the Advocate averaged the DCF method with the risk premium/CAPM method. (*Ibid.*). The Advocate explained that the risk premium/CAPM method uses interest rates or inflation to determine what rate of return is necessary to attract an investor to a specific stock. By applying Verizon's Beta from Value Line reports, the Advocate was able to determine a risk-adjusted return on equity. We agree with the Advocate's analysis because it specifically estimates a risk-adjusted return on equity based upon an unbiased forward-looking technique. While the results of the Advocate's analysis is only marginally different from AT&T's (10% vs. 10.42%), we were somewhat troubled with the concerns raised by Verizon NJ over the declining growth assumption used by AT&T.

As for debt, we also **ADOPT** the Advocate's proposal regarding the cost of debt. In its analysis the Advocate relied on A-rated utility debt that consisted of long-term and short-term debt. Verizon NJ, on the other hand, relied on A-rated industrial bonds and assailed the Advocate for including short-term debt. Notably, their results differ by only 7 basis points. Short-term debt is reasonably included in a forward-looking analysis. Short-term debt, like long-term debt, is subject to market perceptions based upon the anticipation of future events. Therefore, it is properly a part of a forward-looking cost study because the actual rate is a reflection of the market's perceived direction over the life of the debt. Furthermore, we would expect the Company to carry both long-term and short-term debt on a forward-looking basis.

Therefore, for the foregoing reasons, the Board **HEREBY ADOPTS** the Advocate's proposed 8.8% as the appropriate forward-looking estimate of cost of capital.

## 2. Depreciation Lives

### Verizon NJ Position

The depreciation lives proposed by Verizon NJ are the lives it used for financial reporting purposes and based on 1999 Generally Accepted Accounting Principles ("GAAP"). The Company maintained that they are subject to both internal and external review (i.e., Verizon NJ's engineers, capital recovery experts, and outside auditors) and "are forward-looking and are informed by developments in technology, equipment durability, competition, and demand." (VNJb at 52; VNJrb at 57). In support of its position, Verizon NJ stated that "[t]he ONJ [Opportunity New Jersey] lives adopted by the Board in the prior UNE proceeding were essentially identical to the equipment lives used by Verizon NJ for financial reporting purposes at that time. Thus, in its revised cost study presented in this matter, Verizon NJ used depreciation lives (economic lives) based on 1999 Generally Accepted Accounting Principles ("GAAP"), again consistent with the equipment lives used by Verizon NJ for financial reporting ("ONJ") purposes." (VNJb at 50). According to the Company, use of these lives results in lower costs than did the lives proposed by Verizon NJ in the prior UNE case. (Ibid.).

The following are the 1999 GAAP lives used by Verizon NJ in its study:

<u>Investment Category</u>	<u>GAAP Life (in yrs.)</u>
Buildings	30.0
Computers	5.0
Digital Switching	10.0
Operator Systems - Digital	10.0
Digital Circuit	9.0
Circuit SONET	8.0
Poles	30.0
Aerial Cable - Metallic	16.0
Aerial Cable - Non Metallic	20.0
Underground Cable - Metallic	16.0
Underground Cable - Non Metallic	20.0
Buried Cable - Metallic	16.0
Buried Cable - Non Metallic	20.0
Intrabuilding - Metallic	16.0
Intrabuilding - Non Metallic	20.0
Conduit Systems	50.0

[VNJb at 50-51].

Verizon NJ noted that despite the Board's prior acceptance of these equipment lives used by Verizon NJ for financial reporting purposes and the Board's rejection of the non-New Jersey specific use of the FCC's "national," lives in the Generic Order, witnesses for AT&T and WorldCom proposed that the FCC's depreciation schedules should be adopted here. (Id. at 51; VNJrb at 58). Verizon NJ argued that AT&T and WorldCom offered no New Jersey-specific basis on which the Board should reverse its prior ruling and adopt instead the FCC's generic depreciation lives. (VNJb at 52; VNJrb at 59).

Verizon NJ argued that AT&T's and WorldCom's "attacks on GAAP lives, and the suggestion that methodologies followed in some states must be followed in all states, are baseless." (Id. at 52). Verizon NJ also relied on the fact that the FCC recently upheld a decision of the Oklahoma Corporation Commission approving an ILEC's use of depreciation rates based on the equipment lives it uses for financial accounting purposes. \*(Ibid.). Verizon NJ argued that "[n]otwithstanding AT&T's and WorldCom's conclusory attacks on financial accounting lives as a general matter, Verizon NJ's proposed lives are unrebutted and should be adopted in this proceeding." (VNJrb at 57).

Verizon NJ also refuted claims that it had not used the most current data on depreciation lives and rates filed with the Board. Verizon NJ explained that the purpose of the January 2000 "addendum" to a "Depreciation Rate Update" that Verizon NJ filed with the Board in July 1999 was simply to move forward the effective date of the rate change proposed in the Depreciation Rate Update, and that the addendum did not reflect any change in depreciation lives. (VNJrb at 60).

### **Advocate Position**

The Advocate supported the use of current economic lives, and argued that the Board "should adopt the depreciation rates and lives in Verizon-NJ's January 2000 Rate Update." (Ab at 46). The Advocate asserted that these "numbers reflect a more forward-looking proposal than the 1999 Generally Accepted Accounting Principle ("GAAP") lives which Verizon-NJ proposed." (Id. at 46-47). The Advocate rejected using the FCC's lives. While the Advocate "believes that the

FCC's depreciation analysis and adopted life estimates<sup>21</sup> provide a useful benchmark for evaluating individual ILECs' depreciation proposals, especially for those state regulatory commissions which have not performed their own depreciation investigations in recent years," adopting FCC-derived values in this case "would amount to second-guessing the Board's recent judgments on this issue with particularity to Verizon-NJ." (Arb at 26-27).

### **AT&T Position**

AT&T argued that the "depreciation lives and net salvage values adopted by the FCC in the course of the FCC's three-way prescription process should be adopted in this proceeding." (AT&Tb at 105). AT&T asserted that the FCC's "parameters, which have been used in the HAI 5.2a Model, reflect not only forward-looking cost principles but also the FCC's considerable experience in the area." (*Ibid.*). AT&T also noted that the FCC prescribed lives had been accepted by numerous other state commissions. (*Id.* at 105-106). AT&T also argued that Verizon NJ's GAAP lives "are biased towards the low (shorter) side because they are driven by corporate objectives, including the objective of protecting shareholders, and by the accounting world's belief that it is better to overstate costs than to understate them for financial reporting purposes." (*Id.* at 106). AT&T asserted that it is because of such a bias that the FCC had rejected use of financial accounting lives in its Universal Service proceeding. (*Id.* at 107). In addition, AT&T alleged that VNJ has provided no evidence demonstrating why these lives are proper for use in a forward-looking cost study. (*Ibid.*). AT&T further argued that Verizon NJ had not "used the most current data on depreciation lives and rates that it has filed with the Board as the inputs to its cost study" because it did not apply the "depreciation rates contained in a Depreciation Rate Update that it filed in [January 2000] to reflect its most up-to-date accounting data." (*Id.* at 108).

### **WorldCom Position**

WorldCom argued that "VNJ incorrectly uses GAAP accounting lives as proxies for economic lives in its cost studies filed in this proceeding," since "financial accounting lives are not a

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<sup>21</sup> Federal-State Joint Board on universal service and forward-looking mechanism for high cost support for non rural LECS, Tenth Report and Order, 14 FCC Rcd. 20156b(1999), ¶429.

suitable proxy for economic lives and will artificially inflate costs and stifle competition.” (WCb at 32). WorldCom asserted that the “most accurate lives are those determined by the FCC.” (*Ibid.*). Furthermore, WorldCom alleged that “VNJ’s proposed lives are significantly below the low end of the FCC’s ranges and they provide no detailed cost support to the Board (as required by the FCC).” (*Id.* at 32-33). WorldCom recommended the Board use the mid-point of the FCC’s ranges. As such, it recommended the following economic lives be adopted: “Fiber Cable (All Categories) - 27.5; Underground Cable (Metallic) - 27.5; Buried Cable (Metallic) - 23; Aerial Cable (Metallic) - 23; Circuit Equipment (Digital) - 12; Switching (Digital) - 15; Buildings - 38; Computers - 6; Operator Systems - 12; Poles - 35; Conduit Systems - 50; Intrabuilding (Metallic) - 23.” (*Id.* at 33).

### **Board Discussion-Depreciation Lives**

In the Generic Order, the Board found that the depreciation concepts and subsequent values utilized in connection with Verizon NJ’s Plan of Alternative Regulation -Opportunity New Jersey (“ONJ”) were reasonable and appropriate depreciation values to be used to estimate Verizon NJ’s forward-looking costs. The Board reasoned that the intent and purpose of ONJ is to accelerate the advancement of a “state-of-the-art” telecommunications network throughout this State, and that the depreciation lives associated with the ONJ plan, *i.e.*, the lives based on 1999 GAAP used by Verizon NJ for financial reporting purposes, represent forward-looking programs and uses of the network. While the Board is cognizant of our previous findings, our review in this case leads us to a different conclusion. In reviewing both the FCC’s rules and the record evidence, we are compelled to reject Verizon NJ’s proposed depreciation lives input because it is incorrectly based upon financial accounting lives. Closer review of the FCC’s rules guide us to the use of economic depreciation lives as the correct depreciation lives. 47 C.F.R. §51.505 (b)(3) clearly states that “depreciation rates used in calculating forward-looking economic costs of elements shall be economic depreciation rates.”

While Verizon referred to its proposed depreciation rates as economic lives, it acknowledged that the 1999 GAAP lives are consistent with the lives it used for financial reporting. We agree with WorldCom that financial lives are not a suitable proxy for economic lives and will artificially inflate costs and potentially impede competition. (WCb at 32). Financial lives as discussed above are meant to reflect the advancement of a “state-of-the-art” telecommunications network,

but they also permit the Company to increase its annual depreciation charges. Therefore, the use of financial lives in setting TELRIC rates would unfairly increase UNE costs by accelerating the annual charges related to network facilities. We note that our ruling regarding the use of economic depreciation lives for setting UNE rates in no way impacts the lives Verizon NJ uses for financial reporting purposes.

Based upon the foregoing, the Board ADOPTS the economic lives proposed by WorldCom, which utilizes the mid-point of the FCC's ranges. We arrive at our decision after reviewing the substantial record in this matter. We are guided in our decision by the parties that have suggested that financial accounting lives are driven by corporate objectives, and by the accounting world's belief that it is better to overstate costs than to understate them for financial reporting purposes. Even more persuasive are the FCC's findings in specifically rejecting the use of financial accounting lives for its cost model in its Universal Service proceeding. As pointed out by AT&T in its Initial Brief, the FCC stated:

We also agree with GSA's comments that the projected-life values currently used by LECs for financial reporting purposes are inappropriate for use in the model. In addition, the commenters proposing these values have not explained why the values used for financial reporting purposes would also reflect economic depreciation. The depreciation values used in the LECs' financial reporting are intended to protect investors by erring on the side of conservative understatement of net assets, partially achieving this goal by erring on the side of over-depreciation. These preferences are not compatible with the accurate estimation of the cost of providing services that are supported by the federal high-cost mechanism. We, therefore, decline to adopt the proposed life values used by LECs for financial reporting purposes.

[Federal-State Joint Board on Universal Service and Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, Tenth Report and Order, 14 FCC Rcd. 20156 (1999), ¶429 (emphasis added; footnote omitted).

While we are cognizant of the differences in the FCC's Universal Service cost model from the UNE models present in this case, the reasoning as to not over-depreciating is in selecting TELRIC-compliant depreciation rates to be utilized in deriving rates to be paid by CLECs for

UNEs. Accordingly, based upon the depreciation rates presented in this case, we FIND that the economic lives proposed by WorldCom, which utilizes the mid-point of the FCC's ranges, constitute appropriate forward-looking depreciation lives, and the Board ADOPTS these lives for use as inputs in the VNJ Cost Model.

### **3. Expense Factors**

#### **Verizon NJ Position**

Verizon NJ stated that the expense factors used in its "Cost Study are based upon historical information adjusted to be forward-looking by taking into account anticipated labor costs, productivity offsets, anticipated changes in material costs and other adjustments such as potential reductions in maintenance and repair costs." (VNJrb at 61). According to the Company, its "cost model develops installed investment costs based upon material investment and material loading assumptions. Thereafter, annual expense cost factors are used to translate the total forward-looking investment to provide UNEs into monthly UNEs unit costs. The annual cost factors ('ACFs') developed are based upon company specific plant accounts. The ACFs provide a numeric relationship of expenses to investment (by class of plant) which enables the company, in the development of the cost for wholesale offerings, to estimate forward-looking expenses." (VNJb at 52-53). Verizon NJ further explained that the "expense information utilized to develop the factors is based upon Verizon NJ's historical expense information adjusted to be forward-looking based upon material and labor inflation, productivity offsets, anticipated price changes and other adjustments such as anticipated reductions in maintenance and repairs costs." (Id. at 53).

Verizon NJ stated that its recurring cost study developed specific factors, in addition to cost of capital and economic lives, for the following expenses:

Network Factor: includes all network costs, repair, maintenance, rearrangement, testing, network administration, engineering (expense and recurring) network related expenses such as power, plant support, etc. Specific network factors are developed for each class of plant investment (e.g., poles, aerial cable, digital switching, etc.), each factor represents the annual network associated expenditure. The factors are adjusted for productivity and inflation.

Marketing Factor: includes expenses associated with Product Management, Wholesale Marketing Sales, Customer Services and Product Advertising. Since marketing to CLECs is provided on a regional basis, the marketing expense factor is based on all Verizon unavoided marketing expenses compared to Verizon overall investment. The factor includes only wholesale marketing expenses.

Other Support Factor: includes expenses incurred to provide direct support to the network, products and/or marketing groups in administering their functions. The expense categories include the capital and ongoing expenses for support (e.g., furniture, computers, motor vehicles, telephones, land and building), as well as Information Management department, Network Product, Research and Development and, Procurement expenses.

[Id. at 53-54].

Verizon NJ further explained that the network expense factor was reduced to exclude expenses associated with non-recurring functions and to reflect the receipt by Verizon NJ of pole and conduit rental and attachment fees, and the historical repair expense was adjusted “to reflect an expectation that newly designed copper cables are likely to experience fewer troubles on a going forward basis than current copper plant facilities.” (Id. at 54-55). Verizon NJ argued that criticisms by other parties of its expense factors “are based upon a misunderstanding of the methods used to develop Verizon’s expense factors, unrealistic assumptions regarding forward-looking expense reductions, and assertions that certain expenses should be ‘avoided’ in a ‘TELRIC environment’.” (Id. at 55).

Verizon NJ alleged that “[i]n contrast to the Verizon NJ Cost Study, the Hatfield Model is flawed in its approach to estimating expenses” because the HAI “Model generally develops expense estimates based upon ratios of booked expenses to investment, an approach that can be useful but problematic if care is not taken to assure that appropriate adjustments are made in applying historical expense ratios to forward-looking investments.” (Id. at 59). Verizon NJ contended that the HAI Model’s use of this approach is problematic because it “takes no such care.” (Ibid.). For example, Verizon NJ argued that the HAI Model makes inconsistent assumptions such “as claiming that competition will reduce forward-looking network operations expenses immediately by 50%, but that Verizon will not have to pay increased costs for testing or network rearrangement as a result of this competition.” (Id. at 59-60).

## AT&T Position

According to AT&T, the HAI Model's expense factors are based on the "factors that the FCC developed for its cost model in the *Universal Service Proceeding*," and should be adopted. (AT&Tb at 108). For example, AT&T recommended a 6.69% aerial metallic expense factor that was developed by the FCC. (*Id.* at 145). AT&T explained the factors used by the FCC and adopted by AT&T "are the national average of current expenses to the book value of plant, expressed in current dollars". (*Ibid.*). AT&T also argued that Verizon NJ had "presented no evidence of New Jersey-specific conditions or other circumstances that would render the FCC factors inappropriate for use in this proceeding." (*Id.* at 108-109).

AT&T further asserted that, "the expense factors in VNJ's cost model are improper and overstated." (*Id.* at 109). Specifically, AT&T claimed that Verizon NJ improperly calculated its "5-year adjustment," "other support expense" and "marketing expense" factors. noting that in calculating its 5-year adjustment factor, Verizon NJ implied that maintenance, as a percentage of investment, will increase in the future. According to AT&T, in a proper forward-looking cost analysis, repair and maintenance expenses should decrease in the long run, because new and improved equipment will require less maintenance and repair than older embedded equipment. (*Ibid.*, referring to WCOM-1 (Ankum Rebuttal) at 10-12, 16-19; AT&T-58 (Baranowski Rebuttal) at 9-10).

In addition, AT&T contended that Verizon NJ improperly calculated its "other support expenses," which Verizon NJ defined as "those costs associated with directly supporting the network, product and/or marketing functions." (*Ibid.*, referring to; VNJ-23 (Prosini) at MSP-2, p. 8). These expenses include not only the "expenses incurred to provide direct support to the network, products, and/or marketing groups in administering their functions," but also "the capital and ongoing expenses of support investments (*e.g.*, furniture, computers, motor vehicles, telephones, land & building, etc.), as well as the Information Management Department, Network/Product R&D, and procurement expenses." (*Id.* at 109-110, referring to VNJ-23 at MSP-2 at p. 9). According to AT&T, Verizon NJ is attempting to recover through "other support expenses" costs that are applied to investment categories. In AT&T's opinion, it is inappropriate, to recover a shared cost through an annual cost factor that is applied to

investment, because: (1) “other support expenses” are not exclusively related to investments and therefore should not be recovered on the basis of investments; and (2) Verizon NJ’s method has the effect of allocating greater percentages of these costs to certain types of investments than to others, even though there is no basis for doing so. (AT&Tb at 110, referring to; WCOM-1 (Ankum Rebuttal) at. 20-22).

AT&T also argued that Verizon NJ’s “marketing expense factor,” like the “other support expenses factor,” inappropriately attempts to recover a shared cost through a cost factor, with different percentages allocated to different investment categories without any supporting basis for such disparate results. (*ibid.*, referring to WCOM-1 at 23). AT&T further alleged that Verizon NJ’s marketing expenses are overstated because they improperly include advertising costs. In support of its argument, AT&T maintained that VNJ has not advertised UNEs and has no need to do so. (AT&Tb at 109-110).

### **WorldCom Position**

WorldCom argued that Verizon NJ “abuses a number of annual cost factors (ACFs) intended to recover direct expenses” and “attempts to recapture the benefits of forward-looking efficiencies and cost savings.” (WCb at 34). Specifically, WorldCom identified three factors that it alleged should be adjusted. First, WorldCom argued that Verizon NJ’s 5-year adjustment factor” applied to the network factor is not forward-looking and “it is either inflating future expense costs or only reducing them insignificantly.” (*ibid.*). WorldCom argued that applying the 5-year adjustment factor to the network factor “incorrectly implies that maintenance as a percentage of investment will increase in the future.” (*Id.* at 35). WorldCom further alleged that this relationship is wrong because new equipment will require less repair and maintenance than older equipment and the Company’s total expenses to investment ratio has been decreasing over the past five years. WorldCom further stated that the 5-Year adjustment factor affects not only the network factor but “permeates virtually all factors” and “must be removed from the Depreciation Expense Factor, Cost of Capital Expense Factor, Composite Income Taxes Expense Factor, Property Taxes Expense Factor, Marketing Expense Factor, and Other Support Expense Factor.” (*Id.* at 36). After removing the effect of the 5-year adjustment factor from the network factor, WorldCom argued that there should be a further 25% reduction, “[g]iven

VNJ's current trend in expense-to-investment ratios, as well as the old and/or obsolete equipment." (Id. at 35-36).

WorldCom also recommended that Verizon NJ "be required to adjust its Marketing Expense Factor by removing product advertising costs." WorldCom noted that Verizon NJ had not provided any examples of advertisements for UNEs and had pointed to its website where general information on UNEs is contained. (Id. at 36). The website information, WorldCom asserted, "is not advertising in the classic sense which is marketing designed to stimulate purchased." (Id. at 36). It also argued that there is little "incentive for VNJ to advertise unbundled network elements to competitors" and given "these circumstances, advertising is not warranted." (Id. at 37).

WorldCom additionally argued that Verizon NJ overstated its land and building factor because it understated the investment in central office equipment which in turn overstates the building factor. (Id. at 37-38).

### **Board Discussion-Expense Factors**

In reviewing Verizon NJ's development of its expense factors, we generally find that much of the Company's rationale is reasonable. However, as discussed below, we are concerned that Verizon NJ has included advertising expenses in the development of its expense factors. In addition, we take note of the parties' concerns regarding the development of the 5-year Adjustment Factor. We are concerned that Verizon NJ's development of its adjustment factor implies that the overall expenses will increase as a percentage of investment over time. While we believe that it is reasonable that the expense factors should be allowed to increase over time to account for inflation, we FIND and DIRECT that the factor should be corrected to eliminate any increases that result in expenses increasing as a percentage of investment over the life of the study. We note that expenses in absolute terms will increase in the study, because overall investment increases each year.

With these exceptions, we otherwise find that the expense factors proposed by Verizon NJ are reasonable and properly reflect forward-looking expense cost estimates. Verizon NJ's use of current expense and investment information with adjustments to that information to be forward-looking by taking into account anticipated changes in labor costs, productivity offsets, and

material costs and other adjustments, such as potential reductions in maintenance and repair costs, is a reasonable method for estimating its forward-looking expenses. The use of such information results in New Jersey specific estimates, which reflect the unique circumstances associated with the provision of service in New Jersey, e.g., labor costs, etc. We further find that the criticisms of the methodology used to develop expense factors with the exceptions previously noted are unfounded. For example, WorldCom and AT&T's criticisms of Verizon's expense factors are based, in large part, on the argument that in a TELRIC environment certain maintenance and operating expenses should be avoided since equipment is "new." We find that the argument that certain expenses should be decreasing because TELRIC assumes "all new equipment" is unfounded. As suggested by Verizon NJ, taking this position to its logical conclusion would mean that there should be virtually zero maintenance expense in a forward-looking cost study because, under the CLEC's theory, all facilities are always new and perfectly sized.

We also reject WorldCom's assertions that because the ratio of total expenses to investment may be decreasing, it is proper to assume that each individual expense factor used in the Verizon NJ study should be assumed to be decreasing. The Verizon NJ study properly recognized that certain equipment costs, material costs and expenses will decrease on a forward-looking basis while others will increase.

Similarly, we reject WorldCom's proposal that Verizon NJ's network factors should be uniformly reduced by 25%. WorldCom made this proposal based upon its witness Ankum's testimony that there is a trend showing that over the next five years the ratio of expense to investment will decrease by over 20%. We find that Mr. Ankum's aggregated analysis is flawed because it is possible that none of the plant-specific expense to investment ratios actually used in Verizon NJ's studies may be declining and the fact that the aggregated data show decline does not mean that any of the individual plant-specific expense to investment ratios was declining. See Exh. VNJ 75 demonstrating that actual plant specific expense to investment ratios could be increasing while the total expense and investment ratio and the aggregate could be decreasing.

We also find that WorldCom's assertion that Verizon NJ's land and building factor overstates costs because it does not exclude collocation costs is erroneous. Exhibit AT&T-40 demonstrates that the land and building factor developed by Verizon NJ specifically excludes building investment that is used for collocation. Thus, collocation costs are not being recovered

twice as alleged by WorldCom. We also find that Verizon's use of forward-looking investment costs for switching equipment, contrary to WorldCom's claims, does not result in overstatement of land and building factor expenses. This adjustment is necessary to properly determine a forward-looking land and building factor expense estimate. The fact that forward-looking switching equipment investment may be lower than current investment and that such forward-looking investment may increase the land and building factor (but not the actual expenses) does not mean that the factor is "overstated." In fact, it is simply the mathematical consequence of decreasing investment to make it forward-looking.

We agree, however, with WorldCom's and AT&T's assertions that UNE-related advertising costs should not be included in the marketing expense factor developed by Verizon NJ. Verizon NJ has testified that it incurs an advertising expense for the provision of services to CLECs, even though that advertising cost is associated primarily with Verizon's website for CLECs. Costs associated with website development and maintenance to provide general information on UNEs for CLECs are not properly recovered as an advertising expense. We reject Verizon NJ's claim as to advertising expenses and DIRECT the Company to remove all advertising expenses from its expense factor development.

#### **4. Gross Revenue Loading**

##### **Verizon NJ Position**

Verizon NJ's Cost Study explained that it applied "a gross revenue loading ("GRL") factor to total unit costs to account for regulatory assessments and uncollectibles on a per unit basis." (VNJb at 60). Verizon NJ further stated that the GRL factor "consists of actual regulatory assessment fees and uncollectibles" and equals .004007, which it argued would have "a minimal impact on per unit costs." (Ibid.) Verizon NJ noted that "[n]o party in the proceeding has commented or criticized Verizon's GRL factor." (Ibid.).

##### **AT&T Position**

AT&T stated that, although it "does not concede that the application of a gross revenue loading factor is proper in every calculation of TELRIC costs, it is not disputing the propriety of the

particular factor used by VNJ for purposes of this proceeding, since the amount of the factor is de minimis (.004007).” (AT&Tb at 110).

### **Board Discussion-Gross Revenue Loading**

We FIND that the Gross Revenue Loading factor is reasonable and should be applied to all UNE costs to properly reflect costs associated with Verizon NJ’s forward-looking regulatory assessments and uncollectibles.

## **5. Common Costs**

### **Verizon NJ Position**

The Verizon NJ Cost Study applies Common Overhead (or Corporate Services Cost) costs to the unit cost of all UNEs through the use of a “Common Overhead Expense Loading” or “common overhead factor.” In the Verizon NJ Cost Study, the total unit cost is multiplied by [1 + common overhead factor of .10] to attribute a portion of total common overhead to each element. (VNJb at 60). Verizon NJ indicated that the cost study submitted in this proceeding reflected the common overhead factor of 10% adopted in the Generic Order and proposed by AT&T in that proceeding. However, Verizon NJ continued to believe that that factor is too low, and subsequently undertook an analysis of its overhead costs, which yielded a common overhead factor of 12.15%, calculated on a total company basis. (VNJb at 61). The calculation of this common overhead factor was described in the rebuttal testimony of Verizon NJ witness Prosini. (Ibid., referring to VNJ–4 at 2-13).

Verizon NJ also argued that the 6.9% common overhead factor proposed by AT&T witness Cosgrove substantially understated Verizon NJ’s forward-looking common overhead costs by “relying on inappropriate cost data; improperly defining the terms of the factor; and relying on baseless projections to purportedly compute a ‘forward-looking’ factor.” (VNJb at 61.). Verizon NJ further noted that Mr. Cosgrove’s proposed figure is substantially less than a 13% figure supported by the Advocate in other recent proceedings. (VNJb at 61-65).

Verizon NJ concluded that if the Board determines to revisit the issue of the correct common overhead factor to be used in a forward looking cost study, it should reject the approach

proposed by AT&T in this proceeding, and, instead, adopt the 12.15% factor based on its witness Prosini's calculation. (VNJb at 65-66).

### **AT&T Position**

AT&T argued that the 6.9% common (corporate) overhead factor used in the HAI Model and calculated by its witness Cosgrove is "the appropriate common cost additive." (AT&Tb at 111). AT&T alleged that the 6.9% factor was based on an "analysis of regulated data reported by VNJ to the FCC for a ten-year period (years 1990 through 1999)." (Id. at 112). Mr. Cosgrove used ARMIS historical data to compute a two-year rolling average of the annual ratios of common overhead to total operating revenue minus total common overhead. He then looked, for each year, at the percent change in this two-year average from the prior years' value. Thereafter, he calculated an "average" percent change in the rolling average over the last three years of the period examined (1997-1999), and assumed that that average percent change, which was negative 9.5% annually, would continue from 2000 through 2002. Mr. Cosgrove then assumed that the end result of this reduction process would be reflective of the forward-looking, steady state estimation of expenses. (Ibid.). AT&T rejected Verizon NJ's contention that its 6.9% factor was understated because it asserted that it is merely an extension of VNJ's own data reported to the FCC and further asserted that, to the contrary, if anything the factor figure "is overstated because it does not reflect the expected synergies that will result from the recent merger of Bell Atlantic with GTE to produce Verizon Communications, Inc." (Ibid.).

AT&T also argued that VNJ has presented no evidence that a factor as high as 10%, which was approved by the Board more than three years ago based on data that are now approximately five years old, is appropriate today, and that Mr. Cosgrove's 6.9% figure is based on more current data. AT&T also claimed that Verizon NJ's proposed common overhead factor of 12.15% is flawed as well. Noting that VNJ's common overhead factor was calculated based on Verizon NJ's use of total company figures from throughout Verizon's region, not only the expenses of VNJ, AT&T argued that "[g]iven VNJ's failure to follow the New Jersey-specific approach it has advocated" with regard to other issues, the Board should reject its 12.15% common overhead factor. (Id. at 113-114).

## **Advocate Position**

The Advocate argued that the “Board should maintain the 10% common overhead factor that it determined in its previous proceeding.” (Ab at 47).

## **Board Discussion-Common Costs**

The FCC’s First Report and Order indicates that the rates developed for interconnection and unbundled network elements can recover a reasonable share of forward-looking joint and common costs. First Report and Order at ¶694; 47 CFR §51.505. Common costs by their very nature cannot be specifically identified with any single line of business, otherwise, they would be directly assigned. In the proceeding herein, the parties proposed common cost factors ranging from 6.9% to 12.15%. While Verizon NJ initially filed its study using the 10% factor adopted in the Board’s Generic Order, it later revised the figure upwards to 12.15%. However, VNJ never refiled its overall studies using the 12.15% common overhead factor. Verizon NJ developed its common overhead by analyzing a series of accounts, which identified specific common overhead expenses. The expenses were then adjusted by applying a forward-looking adjustment based on the ratio of actual to forward-looking costs. Lastly, the common overhead expenses were divided by the forward-looking product costs excluding common costs to arrive at the 12.15% factor.

We are concerned with Verizon NJ’s calculation because its forward-looking adjustment fails to consider the effects of its recent mergers and therefore fails to account for the potential for significant corporate overhead savings that would be expected with such mergers. However, merger savings were never quantified during the proceeding and therefore we were unable to estimate anticipated savings in overheads expenses. Verizon NJ nevertheless argued that 10% (which was used in the Generic Case) was appropriate for its initial filing in this case but later, upon further review, determined that it needed to be adjusted upward.

As an initial matter, we are concerned with AT&T’s approach, because during the nine year period from 1990-1999 that the Company relied upon, Verizon NJ not only underwent organizational changes, but regulatory changes as well that directly impacted its common overhead expenses.

Based upon its own analysis, AT&T determined that between 1997-1999, common overhead expenses fell by 9.5% annually, which was used to develop its forwarding-looking factor of 6.9%. We are not persuaded by AT&T's analysis and FIND it to be too aggressive because it assumes that on a going-forward basis, VNJ will experience the same synergies it experienced over the time period of AT&T's analysis, which is unlikely. We also REJECT VNJ's revised rate of 12.15% because, as pointed out by AT&T, it includes costs associated with all of Verizon corporation and likely includes inefficiencies from other jurisdictions because of different organizational and regulatory structures.

Based upon the record, we agree with the Advocate and ADOPT the 10% common overhead factor originally used in the Generic Order and proposed by VNJ in its initial filing. We conclude that absent a NJ-specific analysis, we have no basis to adopt a common overhead factor that differs from what was previously found to be correct for New Jersey.

#### **D. Loop Input Issues**

##### **Statement of the Issue**

In this section, we discuss the following loop input issues: cable unit costs; cable sizing and selection; copper/fiber feeder break point; maximum distribution length; digital loop carrier; fill factors; and support structure. As discussed above, because UNE costs are strongly influenced by these inputs, it is necessary that loop cost input assumptions be reasonable and comply with forward-looking cost principles.

##### **Positions of Parties**

#### **1. Cable Unit Costs**

##### **Verizon NJ Position**

Verizon NJ stated its "Cost Study cable investments are based upon data from a Verizon planning tool known as the 'New Jersey Estimate Preparation Program' ("NJEP")." (VNJb at 66). Verizon NJ argued that it revised its methodology from that relied upon in the cost study it filed in 1997 to include cable costs based upon the NJEP, a forward-looking cost tool utilized by

Verizon's engineers when estimating the costs of construction projects over \$50,000, with the average project being approximately \$1,000,000. (*Id.* VNJrb at 67). Verizon NJ indicated that it made this revision to its Cost Study in response to the Board's criticism in the Generic Order that its use of its Vintage Retirement Unit Cost ("VRUC") database to estimate cable costs was not appropriate. (*Ibid.*).

In response to criticisms that the NJEP is based on embedded outside plant costs, Verizon NJ explained, "that the NJEP is a planning tool used when Verizon estimates the anticipated cost of future large scale cable construction projects." (VNJrb at 67). Verizon NJ argued that "the NJEP program, which reflects the forward-looking cost of purchasing and installing cable in New Jersey for large cable construction projects, provides the best available forward-looking cost estimates for cable costs." (*Ibid.*). In addition, Verizon NJ refuted claims "that the only cable cost estimate that is reasonable in a 'forward-looking' cost study is a 'cost estimate' of one single cable construction project for Verizon NJ's 'entire outside plant.'" (VNJrb at 67-68).

Verizon NJ alleged that the cable cost input assumptions in the Hatfield Model continue to be unsubstantiated as had been found in the Generic Order. (VNJb at 67). Verizon NJ also asserted that AT&T offered no new support for its cable cost input assumptions and judgment of a single retired outside plant engineer. VNJ further alleged "[c]onsistent with its position throughout the proceeding, AT&T has refused to substantiate its assumptions through any of its own actual cost information or experience." (*Ibid.*). In addition, Verizon noted that "[a]lthough the Hatfield Model's support for default cable cost input assumptions has not changed (*i.e.*, the 'judgment' of its engineer), the cable cost input assumptions for larger copper cables (400 pair and above) have decreased significantly." (*Ibid.*) Verizon NJ also argued that AT&T's attempts to defend its cable costs used in the HAI Model (by alleging that they are comparable to the FCC's Universal Service cost model cable costs or that they are comparable to those relied upon by BellSouth in a recent Florida proceeding) are unfounded. (VNJb at 68). Verizon NJ noted that for smaller cable sizes, the HAI Model costs are significantly lower than those in the FCC's Model and also criticized AT&T's "selective" reliance upon the FCC's cost model determinations. (*Ibid.*). With regard to AT&T's reliance on BellSouth's Florida data, Verizon NJ argued that AT&T's position is misleading because although certain material costs recommended by AT&T may be comparable to that of BellSouth, the installed cable costs used in the BellSouth studies are substantially higher than those in the HAI Model. (VNJrb at 68-69).

## Advocate Position

The Advocate argued that “Verizon-NJ based its cost study inputs for cable cost, sizing, selection and distribution cable length on the Company’s embedded network rather than the required forward-looking construct.” (Ab at 48). The Advocate stated that Verizon NJ’s cost study was “based on Verizon-NJ’s past experience in its embedded outside plant” and “results in overstated cable costs.” (*Ibid.*). The Advocate asserted that “[w]hile the evidence demonstrates that Verizon-NJ’s cost study is flawed . . . there is little supportable evidence on the correct inputs for cable cost, sizing and length” and it “does not offer a specific recommendation on how the Board should correct the overstatement of costs caused by these inputs.” (*Id.* at 50). The Advocate, without making a specific recommendation, concluded that the Board should “consider these overstatements of cost when establishing the recurring loop rate.” (*Ibid.*).

## AT&T Position

AT&T argued that VNJ’s substitutes for the VRUC-based cable unit costs rejected in the Generic Order “are no improvements” and that the NJEP suffers from the same defect the Board previously found unacceptable: “the engineering jobs included in the NJEP database, like those in the VRUC database, are much smaller than the scale of engineering entailed in constructing VNJ’s entire outside plant (or even a large fraction of it), or the outside plant of a new entrant.” (AT&Tb at 116). AT&T claimed that “the FCC explained that [the] scale of the local telephone network to be modeled must be coextensive with the scale of the incumbent carrier’s existing customer base; otherwise, CLECs would be deprived of the scale economies generated by a competitive market,” and AT&T further alleged that “[b]asing loop prices on NJEP unit costs thus would violate the Local Competition Order by depriving CLECs of the scale economies in outside plant installation that would be available to new entrants if the local telephone market in New Jersey were effectively competitive.” (*Id.* at 117).

AT&T argued that the Board should use the HAI Model’s installed cable unit cost inputs because they “are both forward-looking and reasonable.” (AT&Tb at 115). In support of the HAI Model’s inputs, AT&T stated that “HAI Model inputs for the majority of cable sizes and gauges are *higher* than the FCC’s” in the Universal Service matter. (*Ibid.*) In addition, AT&T argued

that the HAI Model's "cable material values are higher than those for nearly every size and gauge in the only other data found in the public record." (Id. at 116).

### **Board Discussion - Cable Unit Costs**

The Board finds that the methodology relied upon by Verizon NJ to establish forward-looking cable costs for the installation of cable in New Jersey is reasonable. The NJEP, unlike the VRUC database, is a planning tool used by Verizon NJ engineers to forecast forward-looking costs for large cable construction jobs. According to Verizon NJ witness Donald Albert; the average cable construction job in the NJEP is approximately \$1 million. (9T2120-2121). The concerns that the Board previously expressed regarding the use of the VRUC database, i.e., that the VRUC database contained historical data that included small jobs that would not reflect scale efficiencies, are not applicable to the NJEP. As presented by Verizon NJ, the NJEP is a forecasting tool, rather than a historical account showing embedded investment, and the NJEP reflects New Jersey specific costs for large cable project installations. We FIND that the NJEP is an appropriate tool to access forward-looking cable costs.

## **2. Cable Sizing And Selection**

### **Verizon NJ Position**

Verizon NJ explained that its "loop cost study (i.e., the "LCAM" or "UAAA") estimates loop lengths based upon an actual measurement of the feeder portion of all Verizon NJ loops and on data collected from outside plant engineers responsible for the distribution areas in New Jersey." (VNJb at 68). Specifically, Verizon NJ stated that it "collected measurements from its outside plant engineers of the actual length of the feeder and subfeeder routes for each of the 6,800 ultimate allocation areas ("UAAs") in New Jersey." As such, Verizon NJ argued that its Cost Study "results in a reasonable and substantiated estimate of the loop lengths necessary to provide service throughout Verizon NJ's service territory." (Id.)

For the distribution portion of the loop, Verizon NJ explained that "Verizon engineers identified the longest distribution segment of the loop in each UAA." (Id. at 68-69). The cost study then assumed that the average distribution segment in each UAA is one-half of the largest

distribution segments. Verizon NJ claimed to have validated the reasonableness of this assumption by conducting “a comparison of actual distribution loop lengths [from other states] to average distribution lengths produced by the assumption,” which showed “that the study measurement assumption results in distribution loop lengths that are 20% to 30% less than embedded loop lengths.” (Id. at 69). Thus, Verizon NJ argued that its “assumption that the average distribution segment is one half of the longest distribution portion of a loop in each UAA is a conservative estimate.” (Id. at 69).

Verizon NJ refuted criticisms that its “reliance upon its engineers’ judgment to determine appropriate cable size to serve a given area” constituted embedded information and that it would be “more efficient to assume larger cable sizes ‘perfectly sized’ rather than typical sizes to serve given areas.” (Id. at 75). Verizon NJ asserted that “the cable size input assumptions in the Verizon NJ’s study, based upon typical cable sizes to serve an area, are fully consistent with the principles of TELRIC.” (Ibid.).

Verizon NJ also argued that the cable sizing and selection assumptions in the HAI Model should be rejected because of “the substantial inadequacy of the Hatfield Model’s attempt to ‘locate’ customers and estimate cable lengths necessary to serve them,” including its high rise building assumption, use of rectilinear routing that VNJ asserted ignores the topography of the terrain, its methodology of estimating “backbone and branch” costs and its customer compression assumption. (Id. at 72-74). Verizon NJ claimed that these HAI Model assumptions, discussed in Verizon witness Tardiff’s testimony, all result in the understatement of cable costs. (Exh. VNJ 6, p. 61; VNJb 70-74).

### **Advocate Position**

The Advocate argued that “Verizon-NJ’s cable sizing inputs fail to reflect least cost, most efficient forward-looking estimates” because they are based on a survey done by Verizon NJ’s outside plant engineers of the actual network and the actual location of customers, streets and rights-of-way. (Ab at 49). The Advocate further argued that the size estimates generated by the survey, which covered the period 1993 to 1995, were not forward-looking because Verizon NJ “has not done any subsequent analysis on how current cable sizes compare to the embedded cable sizes studied in the survey.” (Ibid.) The Advocate also asserted that “[w]hile the evidence demonstrates that Verizon-NJ’s cost study is flawed . . . there is little supportable evidence on

the correct inputs for cable cost, sizing and length” and thus the Advocate is unable to offer a specific recommendation on how the Board should develop these inputs.” (Id. at 50). The Advocate concluded, however, that the Board should “consider these overstatements of cost when establishing the recurring loop rate.” (Ibid.)

### **AT&T Position**

AT&T argued that Verizon NJ’s contention that “a particular route with future demand for more than 1200 pairs may initially be served with one 1200-pair cable and supplemented later with an additional 1200-pair cable” would violate TELRIC if it would be more costly to later supplement with additional cable than to deploy higher capacity initially. (AT&Tb at 117-118) In addition, AT&T alleged that Verizon NJ’s loop length estimates are a mixture of embedded data and guesswork. (AT&Trb at 54). AT&T argued that because much of the feeder portion of the loop in Verizon NJ studies is based on measurements of the “actual” length of the existing facilities, such estimates are based on “embedded -- plant.” (Ibid.) AT&T alleged that Verizon NJ’s assumption that the average distribution length for each DA is one-half the longest distribution loop per UAA length is “sheer guesswork.” (Ibid.)

### **Board Discussion – Cable Sizing and Selection**

After evaluating the cabling sizing, selection and loop length determination methodologies in the Verizon NJ Model and the HAI Model and the testimony and the arguments with regard thereto, the Board **FINDS** that the Verizon NJ Model produces reasonable estimates of forward-looking costs for UNEs to be provided in New Jersey, with regard to cable sizing, selection and loop length determinations. Verizon NJ’s loop characteristics are based, in part, upon the recommendations of Verizon NJ’s outside plant engineers responsible for particular geographic areas. We find that because the location of central offices, streets, rights of way, easements and natural barriers (e.g., rivers) will not change, it is entirely reasonable to take into consideration these actual characteristics when attempting to estimate forward-looking costs. Moreover, it is important to recognize that the Verizon NJ Model does not simply replicate the embedded network. Instead, it evaluates characteristics of the existing network, such as loop length, and then reconstructs the entire network based upon a forward-looking design. Furthermore, we see no merit to the parties’ assertion that the Verizon NJ engineering surveys

conducted in the 1995 timeframe should not be relied upon because they are not more recent. The engineering principles are the same today as they were in 1995. There is no reasonable basis to conclude that the overall conditions in each of the 6,800 UAAs (e.g., topography, roadways, rights-of-way, central office locations, overall customer locations) would have changed in a way that would have a meaningful impact on the average loop information resulting from the data gathered in the survey. In arriving at our decision, we reject both AT&T's and the Advocate's criticisms of Verizon NJ's unit cable cost development. As an initial matter, the Advocate, while critical of Verizon NJ's methodology, does not offer any suggestions to correct the defects it alleges. As for AT&T's criticisms, we believe that they are unfounded. One of AT&T's main problems with Verizon NJ's methodology is that "the NJEP database, like those in the VRUC database, are much smaller than the scale of engineering entailed in constructing VNJ's entire outside plant." (AT&Tb at 116). In its place, AT&T would rely on the cable costs developed by the FCC in its Universal Cost proceeding. (Id. at 115). While we do not necessarily disagree with AT&T that the FCC data provides a forward-looking estimate of cable costs, we are concerned that the overall installed cost, i.e., both materials and labor, may vary significantly from New Jersey and we would, therefore, prefer to use New Jersey specific data if it is available. We are satisfied that the scale of the jobs contained in Verizon NJ's analysis are of sufficient size to be TELRIC compliant and find no credence in AT&T's argument that Verizon NJ has not properly reflected the engineering scale of constructing the entire outside plant. Clearly, the model results in a network that when combined with the other assumptions in the model produces local loops capable of providing dialtone to customers throughout Verizon NJ's territory. As for the Advocate's criticisms that Verizon has failed to address specific concerns of the Board that were articulated in its Generic Order regarding distribution lengths, we note that the Company has provided evidence in this proceeding which suggested that surveys performed in other states have validated that its estimates are conservative.

### **3. Copper/Fiber Feeder Break Point**

#### **Verizon NJ Position**

Verizon NJ argued that its "Cost Study designs loops with the most economically efficient mix of cable facilities based upon the use of a copper/fiber (digital loop carrier) breakpoint assumption." (VNJb at 77). Verizon NJ stated that the "copper/fiber carrier breakpoint is 7 kilofeet and 9 kilofeet, respectively, for market and standard wire centers." (Ibid.). Verizon NJ further alleged that the "application of the copper/fiber breakpoint assumption in the Cost Study

results in a forward-looking loop make-up that is substantially different from Verizon NJ's embedded network." (Ibid.). Verizon NJ noted as an example that while less than 17% of the loops in its existing network are served by fiber, its "forward-looking Cost Study assumes that over 60% of all loops will be served by fiber optic cable." (Ibid.). Verizon NJ asserted that "[a]lthough during the proceeding AT&T took no position regarding the copper/fiber break point used in Verizon NJ's Cost Study, AT&T in its brief argues, without any evidentiary support, that the copper/fiber break points . . . used in Verizon's study are inefficient and result in an 'overstatement' of costs." (VNJrb at 70). Verizon NJ responded that "[d]espite AT&T's assertions, modifying Verizon's cost studies to include a copper/fiber break point between 12,000 and 15,000 feet [as recommended by AT&T] would substantially increase the amount of copper feeder, which would result in higher cost results." (Ibid.).

### **AT&T Position**

AT&T argued that Verizon NJ "failed to provide any justification for the break points that it used." (AT&Tb at 119). AT&T claimed that "the copper/fiber feeder break point used in the HAI Model should be adopted" (AT&Trb at 56) and that Verizon NJ's "criticisms are without merit, because they are based on the assumption that the CSAs [Carrier Serving Areas] and DAs [Distribution Areas] in the HAI Model are too large -- an assumption that is totally contrary to the evidence." (AT&Tb at 120). It noted that "the HAI Model locates and serves customers in small population 'clusters', the large majority of which are no more than three miles on a side." (AT&Tb at 120-121).

AT&T argued that Verizon NJ's copper/fiber feeder break point was inefficient because the "length that VNJ's model uses for market wire centers is contrary not only to industry standards, but also to the recommendation in VNJ's own documentation that fiber be used only for much greater lengths." (AT&Trb at 56-57). Specifically, AT&T alleged that Verizon NJ proposed shorter break points "to support VNJ's broadband offerings" and that its "proposed break point would result in a substantial overstatement of costs for voice-grade loops, and should be rejected." (Id. at 57).

## **Board Discussion – Copper/Fiber Feeder Break Point**

We **FIND** that fiber/copper break point used in Verizon NJ's study is reasonable and reflects a forward-looking efficient network design. We note that this assumption results in the reconstruction of the network with substantially more fiber optic cable (and digital loop carrier equipment) than exists in Verizon NJ's actual embedded network. Furthermore, there is no evidence in the record to support AT&T's claim that the use of a longer break point would result in lower loop costs. Verizon NJ's cost model witness testified that the break point used in the study is the most economically efficient break point. (VNJ-3, MSP-2, at. 5-6). Moreover, Verizon NJ's witnesses have testified that the break point is consistent with its current design standards (Ibid.) Of course, the overall cost depends on a number of other factors that when combined create the components of an end-to-end functioning loop. Like many of the other inputs in the models, the copper/fiber break point must not be viewed in isolation. As noted above, the break point not only influences the amount of copper or fiber feeder that is used, its also impacts the use of electronics as well as the ultimate distribution lengths. Therefore, while some parties may argue that in a given situation fiber feeder may result in higher costs, backed by the proper electronics, fiber feeder is generally more efficient. We disagree with AT&T's contention that VNJ's break point is shorter to promote its broadband offering. Based upon our analysis, fiber feeder is clearly an efficient forward-looking technology when provisioned properly, as we seek to do here. Based upon the information provided, we adopt the copper/fiber break points recommended by Verizon NJ. We also note that other modifications will be necessary to other inputs to ensure that compatible assumptions are used throughout.

### **4. Maximum Distribution Length**

#### **Verizon NJ Position**

Verizon NJ indicated that "[I]n order to make certain that forward-looking loop design is efficient," the Verizon NJ Cost Model assumed a maximum permissible length for the distribution portion of loops, which is not to exceed a length of 6 kilofeet, regardless of whether the actual average distribution loop in a distribution area is greater than 6 kilofeet. According to the Company, the distribution portion is the most expensive portion of the loop. (VNJb at 77). Verizon NJ argued that "where this distribution length limitation is imposed, the feeder section of

the loop is extended so that the total loop length remains the same,” which “results in an increase in the amount of feeder cable and a corresponding decrease in the amount of more expensive copper distribution cable.” (*Id.* at 77-78). Verizon NJ maintained that “this adjustment resulted in more efficient network design than otherwise might exist in Verizon’s embedded network.” (VNJb 78). Verizon NJ also argued that although AT&T criticized Verizon NJ’s distribution loop assumption, AT&T proposed “no alternative to the maximum distribution length limitation imposed in Verizon’s study.” (VNJrb at 71).

### **Advocate Position**

The Advocate alleged that because “the Company’s proposed cost study continues to assume that the average distribution cable length is one half the length of the longest distribution cable in an UAA” (Ab at 49), Verizon NJ ignored the Board’s determination in its Generic Order, that this methodology might overstate or understate distribution loop lengths. (*Ibid.*). Despite this criticism, the Advocate stated that it “does not offer a specific recommendation on how the Board should correct the overstatement of costs caused by these inputs.” (*Id.* at 50). The Advocate concluded that the Board should “consider these overstatements of cost when establishing the recurring loop rate.” (*Ibid.*)

### **AT&T Position**

AT&T argued that the “HAI Model does not set a maximum distribution length, but simply ensures that no copper loop carrying analog signals, including both the feeder and distribution portions of the loop, exceeds the maximum analog copper distance set as a user input.” (AT&Trb at 57). AT&T stated that the HAI Model’s default length was 18,000 feet. (*Ibid.*). It maintained that its approach is based on Bellcore and FCC criteria and should be adopted. (*Ibid.*). AT&T claimed that Verizon NJ’s argument that “its proposed maximum distribution length of 6,000 feet for copper loops is forward-looking and efficient because such a length results in an increase in an amount of feeder (*i.e.*, fiber) cable -- and a corresponding decrease of more expensive copper cable” violated TELRIC because its “proposed maximum length overstates costs.” (AT&Trb at 57-58).

## **Board Discussion – Maximum Distribution Length**

Based upon the evidence presented in this case, we find that the methodology relied upon by Verizon NJ in its cost model to estimate the length of the distribution portion of the loop is reasonable and produces reliable estimates for distribution loop lengths necessary to provide UNEs throughout Verizon NJ's service territory. Like the other assumptions affecting the loop (e.g., fiber/feeder breakpoint, electronics, cable sizing), maximum distribution length is a variable that must not be viewed in isolation. Moreover, Verizon NJ's utilization of a maximum distribution loop length, which makes certain that the longest distribution portion of a loop never exceeds 6 kilofeet, reduces the overall amount of distribution cable that might otherwise exist in the network. As such, this constraint, along with other appropriate assumptions and inputs, will provide TELRIC-complaint results. This assumption causes the feeder portion of loops to be longer. Because the feeder portion of the loop is generally less expensive than the distribution portion, the use of a maximum distribution length assumption results in an efficient network design. We find that there is no evidence to support AT&T's assertion that the imposition of a maximum distribution length limitation overstates costs. Even in a forward-looking environment, engineering guidelines will be used to deploy facilities. AT&T's modeling approach is unrealistic because it uses a least cost methodology that could never be achieved in the actual construction of a network and if attempted may actually increase costs due to increased planning and engineering expense that may never be offset by reduced plant expense.

## **5. Digital Loop Carrier (DLC)**

### **Verizon NJ Position**

Verizon argued that its cost study assumed the reconstruction of the network based upon efficient technologies and forward-looking cost estimates and network design. In support of its position, the Company asserted that its cost model designed a forward-looking efficient network that is substantially different from its existing embedded network. According to the Company, although less than 17% of its "actual loops are served by fiber optic cable," Verizon NJ's cost study assumed that over 60% of all the loops are served by fiber optic cable. (VNJb at 78). Verizon NJ's witness Donald Albert explained that loops served by fiber optic cable require the

use of DLC equipment of which there are two general types: (1) universal digital loop carrier (“UDLC”) and (2) integrated digital loop carrier (“IDLC”).<sup>22</sup> (*Ibid.*). Additionally, there are several different interface protocols that can be used in connection with IDLC. (*Ibid.*). The Verizon NJ Cost Study assumed that 40% of its lines are served by copper cable and that 50% are served by UDLC and 10% served by IDLC. (*Ibid.*).

Verizon NJ alleged that its “forward-looking study appropriately assumes that the individual 2-wire UNE loops handed off to a CLEC at a collocation arrangement are served by UDLC equipment, which is consistent with the DLC technology Verizon does, and will continue to deploy.” (*Ibid.*). Verizon NJ further argued against the CLECs’ proposal that “for ‘costing purposes’ all loops served by DLC be served by IDLC (GR303) and that they be handed off to CLECs as DS1 circuits.” (*Ibid.*). Verizon NJ explained that “[t]his technical/physical handoff configuration is not the 2-wire analog unbundled loop” that is being purchased by CLECs as a UNE and being cost out in this proceeding. (*Id.* at 78-79). Verizon NJ stated:

The CLEC proposed DS1 arrangement would be a different element, with a different cost structure than the 2-wire analog loop that CLECs actually order and is handed off at a collocation arrangement to a CLEC as a 2-wire analog loop. Despite the fact that 2-wire analog UNE loops -- i.e., the type of loops ordered by CLECs -- cannot be provisioned over IDLC (GR303) -- Verizon NJ’s study assumes that approximately 10% of the lines will be served over IDLC with a GR303 interface. The remainder of the digital loop carrier lines are served by UDLC, a technology which can be used to hand off 2-wire analog loops to CLECs at collocation arrangements, thereby enabling Verizon NJ to provide unbundled loops to CLECs.

[*Id.* at 79(citations omitted)].

Verizon NJ also argued that a Verizon engineer responsible for attempting to deploy new technology, Donald Albert, explained that “DS1 circuits (i.e., the type of circuit carrying a number of calls multiplexed together over DLC) provided over IDLC-GR303 cannot be unbundled and handed off as 2 wire analog loops to CLEC collocation arrangements,” because there are:

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<sup>22</sup> Of the existing 17% DLC equipment in Verizon NJ’s actual network, 10% is UDLC and 7% is IDLC.

unsolved industry problems, a number of them which make it technically infeasible and impossible to do the DS1 handoff. . . . So as a result today, there are no ILECs anywhere in the country that are handing off unbundled, individual unbundled loops over integrated DS1 type of interfaces.

[Id. at 82-83, citing 5T1064.]

Verizon NJ further testified that less than 2/10 of 1% (.02%) of lines in its actual network utilized IDLC with a GR303 interface, and after the completion of an experimental project, Verizon NJ has discontinued the installation of GR303 and has no present plans for its deployment. (VNJ-11, 5; 9T248-2249; VNJb at 79). Verizon NJ further argued that its forward-looking assumption that 10% of all loops in its network would be served by GR303 was conservatively high and was included because, at the time the cost study was completed, Verizon NJ's engineering guidelines called for the installation of GR303 "under certain narrow circumstances" (i.e., certain growth jobs where GR303 compatible equipment had already been installed in the existing switch which the GR303 lines would be served and where all operations systems required to provision, maintain and monitor GR303 lines have been deployed. (5T1094)). VNJ explained that its "aggressive 10% penetration assumption was considered to be reasonable for Cost Study purposes in recognition that some minimal deployment was called for by the engineering guidelines and that an experimental project -- since discontinued -- in New Jersey had deployed some GR303 technology." (VNJb at 80).

Verizon NJ contended that CLECs' arguments that 100% of lines served by DLC in a forward-looking cost study should be deployed with a GR303 interface ignore the fact that IDLC with a GR303 interface cannot be used to provide 2-wire analog groups to CLEC's collocation arrangements as required by the Act and CLECs. Thus, Verizon NJ concluded that "[t]he CLECs [sic] argument that virtually all of Verizon NJ loop costs should be based upon technology that cannot be used to provide the specific service being requested and cost out is unreasonable and inconsistent with the requirements of TELRIC." (Ibid.). Verizon NJ further asserted that AT&T is wrong that its cost studies filed in the earlier phase of this proceeding, utilized GR303 technology. (VNJb at 80-81). Verizon NJ alleged that although its cost witness Edward Wylonis did utilize IDLC in Verizon NJ's 1997 cost study, he never indicated that the IDLC was to be served by a GR303 interface. (Id. at 81). Rather, Verizon NJ argued that in the

earlier phase of this proceeding, its cost study assumed that forward-looking DLC costs would be based upon a combination of UDLC and IDLC technology. (*Ibid.*).

Verizon NJ also argued that assertions by the CLECs that GR303 interface technology can be “unbundled” as required by the Act, is speculative and the CLECs have not been able to point to a single instance anywhere in the country where IDLC GR303 has been unbundled and handed off as a 2-wire analog loop in a multi-carrier environment. Verizon NJ engineer Donald Albert testified:

[I]t is not feasible to take an unbundled loop [and provide to] a CLEC as an individual two-wire unbundled loop and then to hand that off to a CLEC over a DS1 interface that is operating using the GR303 integrated digital carrier standard. That is what we don't do anywhere today and that's we can't do today.

[5T1085].

Verizon NJ also criticized the CLECs' claims that 2-wire analog loops could be handed off in a multi-carrier environment. Verizon NJ alleged that the CLECs ignore advice that Verizon NJ received from its vendors and instead base their position upon unsubstantiated opinions and marketing materials. Verizon NJ also alleged that the Telcordia Notes document introduced and relied upon by AT&T does not support AT&T's claim that GR303 can be used to provision 2-wire analog loops in a multi-carrier environment. (VNJrb at 76). Likewise, Verizon NJ asserted that contrary to the allegations made by the CLECs, its engineering guidelines do not call for widespread deployment of GR303 and, when one reads “the fine print,” it reveals that circumstances under which the guidelines call for the implementation of GR303 were narrow. (9T2248-2249). Additionally, Verizon NJ noted that the deployment of GR303 in New Jersey was only being done in connection with an “experimental project” in Passaic which has been discontinued. (9T 2249; VNJrb at 77).

Refuting claims of WorldCom that “technical alternatives (Multi-Hosting, Integrated Network Architecture, DCS Grooming and Side Door Grooming)...permit the use of integrated interfaces for individual voice grade loops,” VNJ maintained that, as the FCC concluded in the UNE Remand Order, “competitors generally cannot access IDLC loops at the incumbent's central office.” (VNJrb at 76-77). As to WorldCom's reliance on the New York Public Service Commission's requirement that certain lines be priced utilizing GR303, the Company argued

that it “is immaterial to the issue before the Board.” (Id. at 77. ) According to Verizon NJ, “the evidence [that must be considered] is that it is technologically infeasible to use GR303 IDLC to provide 2-wire analog loops capable of being delivered to CLEC switching or collocation arrangement.” (Ibid.) Verizon NJ also alleged that its study “assumed the presence of a 3:1 loop/port concentration ratio of GR303 IDLC,” and that this ratio was reasonable. (Id. at 78).

### **Advocate Position**

The Advocate argued that Verizon NJ’s Cost Study includes an inappropriate mix of DLC which overstates loops costs, and that “the Board should order Verizon NJ to eliminate UDLC from its cost study and assume 100% use of the forward-looking GR303 standard NGDLC.” (Id. at 51, 54). The Advocate alleged that although Verizon NJ’s network has virtually no GR303 today and Verizon NJ has discontinued plans to deploy that technology, for TELRIC purposes, a carrier’s existing network make-up or its planned technology deployment has no bearing on forward-looking design for cost studies. (Ab at 51-52). The Advocate alleged that GR303 is the most efficient forward-looking technology and that engineering and planning suggest that it is technically feasible “to unbundle loops served by GR303 standard NGDLC.” (Id. at 54-57) In further support of its position, the Advocate pointed to the New York Public Service Commission’s findings that concluded that because “several major manufactures have begun marketing the equipment and technology and it is now readily available for deployment ... subscriber loops can be most efficiently provided via integrated digital loop carrier technology using the GR303 protocol.” (Id. at 56).

### **AT&T Position**

AT&T maintained that without the use of a 100% GR303 standard, VNJ has not shown – and cannot show – that its cost study complies with TELRIC principles. According to AT&T, GR303 provides important efficiencies, and cost models should assume 100% GR303 functionality, which would eliminate costly conversion equipment that is necessary with UDLC to convert signals from analog to digital and back to analog and finally to digital. (AT&Tb at 122). AT&T also noted that a given number of lines can be served with far less reserve capacity with GR303 than with UDLC. (Ibid.). Thus, AT&T maintained that VNJ’s Cost Study, which assumed a network provisioned with only 10% GR303, “ignores the reality that GR303 technology is currently available and, therefore, already is the proper forward-looking standard for digital loop

carrier, causes significant overstatement of costs and fails to meet the forward-looking standard.” (AT&Tb at 123).

According to AT&T, although VNJ asserted that it is improper to assume that 100% of all loops will be served by GR303, none of the reasons that it advanced in support thereof has merit. (AT&Trb at 58). AT&T argued that Verizon NJ’s claims that less than 1% of the lines in its actual network are served by IDLC with a GR303 interface and that Verizon NJ has no current plans or projections regarding installation of additional GR303 lines are irrelevant. (AT&Trb at 58). AT&T submitted that under TELRIC, costs are based on the design and construction of the most efficient network that could be deployed today, using the best technology available. (AT&Tb at 123-124; AT&Trb at 58). AT&T maintained that, therefore, it is irrelevant that VNJ has not identified additional GR303 applications at this time, since the current circumstances of its embedded network are not a proper basis for the determination of forward-looking costs. The issue, according to AT&T, is not whether VNJ is deploying GR303, but whether currently available technology would permit VNJ to do so. (AT&Trb at 59).

AT&T further contended that the evidence belied VNJ’s assertions that the use of 100% GR303 is not technically infeasible, and noted that Telcordia documentation introduced by AT&T confirmed that it is technically feasible to use GR303 to hand off DS1 loops to separate CLECs, (AT&Trb at 59, citing Exh. AT&T-42, 43, 44; 9T2225-2232; AT&Tb at 123). It argued that VNJ itself has previously conceded that the electronic delivery of loops to a CLEC via a DS-1 is technically feasible and that the technical and operational problems supposedly associated with the development of 100% GR303 technology are commonplace hurdles normally encountered in the rollout of new technology in the telecommunications industry. (AT&Trb at 59). According to AT&T, “[t]he New York Public Service Commission already has recognized that Verizon’s UNE costs should be premised upon GR303 integrated interfaces, which logically accompany that all fiber feeder, all integrated digital loop carrier forward-looking network construct the commission adopted in setting UNE rates.” (AT&Tb at 123, n. 112) In addition, AT&T asserted that Verizon New York “argued to the New York PSC for a ratio of other technology to GR303 of 6:1, equivalent to nearly twice as much GR303 as VNJ propose[d]” in New Jersey. (*Id.* at 124).

AT&T also argued that Verizon NJ’s assertion that loop hand-offs “constitute a new and additional UNE” begs the question. (AT&Trb at 59). According to AT&T, the evidence showed that this technology is technically feasible, and that it meets “necessary” and “impair” standards

for unbundling set forth in Section 251(d)(2) of the Act. (Ibid.). AT&T maintained that consequently, if the Board were to decide that 24-loop bundles of loop equivalents under GR303 are a separate UNE, VNJ should be required to unbundle and provide this technology. (Id. at 59-60).

### **WorldCom Position**

WorldCom argued that the Verizon NJ Cost Study should reflect 100% Next Generation Digital Loop Carrier (“NGDLC”) operating with a GR303 interface, rather than 10% , which it referred to as an “unjustifiably limited use of GR303” that “needlessly increases UNE costs.” (WCb at 19). WorldCom claimed that GR303 deployment was feasible because “there are several methods for GR303 NGDLC unbundling that do not require access to a universal interface, including multiple switch hosting, integrated network architecture and side door grooming.” (Id. at 20). In addition, WorldCom argued that Verizon NJ’s study failed to assume a concentration ratio, which “refers to the percentage of end-users that can use their line simultaneously within these time slots without causing blockage.” (Id. at 23). WorldCom recommended that the Board require Verizon NJ to utilize a 6:1 concentration ratio in its cost studies to reflect the efficiency of the GR303 concentration functionality. (WCb 25).

### **Board Discussion-DLC**

One of the many critical decisions the Board will need to make is the percentage of Digital Loop Carrier assumed in the model. The percentage of Digital Loop Carrier in the network, like fill factors, is a key cost driver. VNJ assumed that on a forward-looking basis, its network will be comprised of 60% DLC with the remaining being 40% being end-to-end copper. Of the 60% DLC, 83%’s Universal Digital Loop Carrier (UDLC), and the remaining 17% Integrated Digital Loop Carrier (IDLC). Verizon NJ has argued that a higher percentage of UDLC is required to serve stand-alone unbundled loops because the IDLC portion cannot be unbundled to provide unbundled loops to CLECs. This is contrasted with the existing network of 17% DLC, comprised of 7% IDLC utilizing a TR008 protocol, 10% UDLC and close to 83% end-to-end copper. Said another way, of the 17% DLC currently in Verizon NJ’s network, 59% is UDLC while the remaining 41% is IDLC.

AT&T and the other parties vehemently argued that the only TELRIC-compliant DLC percentage is 100% regardless of Verizon NJ's actual plans or current deployment. The FCC's rules require us to look beyond the Company's existing network. In fact, Verizon NJ did just that by adjusting its overall percentage of DLC systems in its network from 17% to 60%. However, Verizon NJ inappropriately included a mix of UDLC in its design. It is inconceivable that a carrier such as Verizon NJ could suggest that its percentage of DLC will increase in a forward-looking network from 17% to 60%, and then only include 10% deployment of a modern, technologically superior DLC system such as IDLC. This would be tantamount to a carrier replacing 90% of its switches with analog rather than digital switches on a forward-looking basis.

We have carefully considered Verizon NJ's argument that IDLC cannot currently be unbundled to provide individual unbundled loops, but we are unconvinced of its merits. The record clearly reflects that UNE-P orders do not have to be unbundled and may be provided seamlessly over IDLC facilities. Based upon the fact that many of the CLECs have stated that they will utilize UNE-P as the primary vehicle to enter the local market, and not unbundled loops, we **FIND** that the use of 100% IDLC is appropriate in a forward-looking environment and **DIRECT** Verizon NJ to revise its model to include the use of 100% IDLC for use in its digital loop carrier system. Even if we were to accept Verizon NJ's argument, 40% of the network still consists of end-to-end copper that is capable of being unbundled. In addition, it is clear that the industry is moving toward overcoming the hurdles associated with providing unbundled loops over IDLC facilities as evidenced by the industry's efforts to establish operating parameters.

## **6. Fill Factors**

### **Verizon NJ Position**

Verizon-NJ argued that a fill factor for a particular facility is a measure of the utilization of the investment used to provide a given network element. Verizon NJ noted that the factor has an impact on cost, since the total cost of a facility must be allocated over those units of services (e.g., subscribers, access lines) that are in service. (VNJb at 85). According to Verizon NJ, fill factors, or utilization levels, "are a way of determining how much 'inventory' an operating telephone company needs to maintain in order to continue to be able to provide high quality, timely and efficient service to its own customers and to the CLECs and their customers." (VNJb at 85). Verizon NJ explained that "determinations regarding the utilization levels to be used in a particular job are based upon an economic tradeoff between capital expenditures to build

facilities [and] labor and expenditures necessary to augment facilities in the future. For example, if utilization rates are too high at the time facilities are installed, although initial capital expenditure may be reduced, Verizon NJ would be required to substantially increase its operating expenses for installation, engineering, construction, network rearrangement, maintenance and repair and purchases of additional equipment in order to maintain appropriate service levels. Conversely, if a carrier invests capital that provides excess spare capacity at levels beyond those that could be reasonably anticipated or are historically reliable, future expenditures to augment facilities or rearrange the facilities would be reduced.” (VNJb at 86). Verizon NJ explained that, in general, fill factor assumptions in its cost study were “based primarily upon the judgment, expertise and experience of Verizon NJ’s engineers that have been, are, and will continue to be, responsible for the provision of service throughout New Jersey.” (VNJb at 86).

In response to criticisms that the fill factors in its actual network are excessive because it has “had incentive to overbuild” its network, Verizon NJ argued that since 1987 it has operated under price cap regulation and has had considerable incentive to minimize and control its costs. Thus, according to Verizon NJ, to the extent its actual fill levels are considered in connection with the development of fill factors for its cost study, those fill factors reflect the substantial incentive the Company has had to reduce its costs by not overbuilding its network or creating excessive levels of inventory. (*Ibid.*). Verizon NJ maintained that its fill factors “are reasonable and reflect forward-looking levels of an efficient carrier operating a dynamic network.” (VNJrb at 80).

### **Advocate Position**

The Advocate claimed that Verizon NJ’s fill factors would not yield forward-looking, efficient results because they were not based on forward-looking assumptions. (Ab at 57). In particular, the Advocate alleged that the fill factors used in the Verizon NJ Cost Study were based on embedded fill levels. Thus, based upon the testimony of its witnesses and fill factors used by state regulatory commission, the Advocate made fill factor recommendations. (Ab at 58). These are discussed in the appropriate subheading on fill factors.

## **AT&T Position**

AT&T asserted that “[b]ecause fill factors directly affect the amount and carrying costs of investment in space capacity, fill factors are a major input to the cost of outside plant.” (AT&Tb at 125). AT&T stated that determining proper fill factors requires weighing the carrying costs of reserve capacity against the projected cost of adding capacity in the future. (*Ibid.*). AT&T noted that Verizon NJ’s engineering standards recognize this tradeoff. (*Ibid.*). AT&T explained that “[t]o strike an optimal balance, one must weigh several factors, including: (1) the cost penalty for piecemeal expansion; (2) the capital and depreciation costs of the reserve capacity; (3) the expected rate of growth in demand; (4) local demographic characteristics; (5) the expected rate of growth in the productivity of telephone technology; and (6) the relative willingness of customers to pay for capacity now versus later.” (*Ibid.*). AT&T also claimed that in determining fill factors, the additional revenue-generating output likely to be generated by the additional capacity also must be considered. (AT&Tb at 126). AT&T argued that while “both the HAI and VNJ cost models overstate the unit cost of spare capacity, because the denominators of their fill factors are based on current demand levels, not the (higher) future demand levels for which the models size capacity. . . VNJ’s model further overstates capacity costs, however, by overestimating the total amount of spare capacity required -- the numerator of the fill factor.” (*Id.* at 126). AT&T claimed that “[b]y including substantial quantities of unused (and never to be used) outside plant, or loop, facilities, VNJ’s cost models produce loop costs that are inflated and inconsistent with TELRIC.” (AT&Trb at 61).

## **WorldCom Position**

WorldCom argued that Verizon NJ’s fill factors included excessive amounts of spare facilities and were based on its embedded network in violation of “FCC sanctioned TELRIC cost principles.” (WCb at 25-26). WorldCom argued that “VNJ’s proposed fill factors force CLECs to pay for spare facilities that they can never use while VNJ has access to those very same spare facilities (paid for by CLECs) at all times and can readily deploy them to serve customers.” (WCb at 25). WorldCom maintained that this result is anticompetitive and discriminatory. (*Id.*). WorldCom recommended revised fill levels based upon the testimony of its economist August Ankum. In the alternative, WorldCom recommended that CLECs have “free access to the spare facilities that they pay for, just as VNJ has access to those facilities.” (WCb at 26).

## **Board Discussion-Fill Factors**

In general, fill factors are the ratio of working capacity (e.g., working lines) to the amount of total capacity. For example, a 70% fill factor for a 400 pair copper feeder cable would mean that 70% of the (.70 X 400) pairs (280) in the cable were working pairs while the remainder would consist of damaged pairs, cable breakage, pairs needed for administration and spare capacity for growth. The selection of appropriate fill factor levels, which may vary depending on the types of cable, is important for estimating forward-looking costs. Thus, for each of the fill factor assumptions below, the Board has carefully considered all of the information and arguments in the record. We note that the selection of an appropriate forward-looking fill factor requires the balancing of the need for an ILEC to have sufficient levels of capacity so that it can provide prompt and reliable levels of service, with the need to control and manage capital expenditures. The following sub-sections address fill factors by type.

### **a. Distribution Fill Factor**

#### **Verizon NJ Position**

As noted by Verizon NJ, the level of fill for the distribution portion of the loop has received the most attention from the parties. (VNJb at 87). Verizon NJ described the distribution portion of the loop, as the portion of a loop that runs from the serving area interface (where the feeder plant is terminated) to terminal boxes located outside individual houses or businesses. (*Ibid.*). In its cost study, Verizon NJ proposed what it described as a forward-looking distribution fill factor of 40%, which it alleged is based, in part, upon the anticipated continued application of current engineering guidelines employing the “ultimate demand design” standard. (*Id.* at 87-88). Verizon NJ further explained that its 40% fill level is based upon its current level of fills, adjusted for breakage, and the assumption that because Verizon NJ’s engineering ultimate demand guidelines will not change, its overall distribution fills will remain relatively constant. (*Id.* at 88). According to Verizon engineer Albert:

[g]iven the great expense and customer disruption associated with adding capacity to the distribution system, there are strong economic reasons to place greater capacity in the distribution cable system at the outset. This is true for all types of distribution plant -- aerial, buried and underground . . . distribution cables --

which run through and over the streets, alleys and backyards of a service territory -- are engineered for the ultimate expected demand. The substantial placement and construction costs required to provide more distribution cables in the future significantly outweigh the incremental material costs of placing larger distribution cables at the outset.

[VNJb at 87 (footnote omitted).]

Verizon further argued that the “ultimate design” standard, which it asserted is generally accepted for the design of distribution plant, is based on the “realization that peak demand on a distribution segment is created not by long term growth but by statistical fluctuations in demand.” (VNJb at 88-89). Thus, according to Verizon NJ, although the average lines per living unit in New Jersey is approximately 1.3, it is entirely reasonable to expect that there will be cable segments or local access terminals where a much larger percentage of customers demand additional lines for some time. (Id. at 89). VNJ maintained that established industry practice is to provide sufficient cable at each interface point to support a peak demand of a minimum of two access lines from an existing or zoned residential unit in a distribution terminal. (Ibid.). Because of the substantial uncertainty regarding when and where distribution demand will occur, including the increase in demand for additional lines, Verizon engineering guidelines require two to five distribution pairs to be assigned for each potential living unit. (Id. at 88).

Verizon NJ argued that the parties that criticized its use of a 40% distribution fill factor “ignore real world engineering realities such as the fact that systems must be designed based upon potential demand (not current demand) and that the uncertainties as to when and where demand will change are substantial even in mature and fully developed areas.” (VNJb at 89, 90). Verizon NJ also emphasized that the 40% distribution fill in its study is a total statewide average, and it is not necessarily representative of any particular cable route. The statewide average takes into consideration the fact that utilization for new cable routes can be zero or close to zero; however, VNJ maintained that new distribution cable often must be constructed in areas well before potential living units are built or occupied. (VNJb at 90).

The Company also contended that it is necessary to take into consideration cable breakage, which refers to the pairs in a cable that are in excess of the pairs required based upon engineering requirements. (VNJb at 88 n.332, 90). For example, for a street where standard engineering guidelines would require 60 pairs of cable based upon a design criteria of two pair

per living unit, i.e., 30 units requiring 60 pairs, the next available size cable to serve 60 pairs is a 100 pair cable. Thus, the difference between the number of pairs called for by the engineering guidelines (60 pairs) versus the remaining pairs (40 pairs) that are present as a result of the fact that cables only come in discrete increments (100 pairs) would be considered “breakage.” In this example, the cable would have a 30% fill level (30 lines over 100 pairs) even though it was engineered based upon a two pair per living unit standard. (See Id. at 88 n.332).

VNJ also argued in response to arguments of AT&T, that new, installed cables are not free of defects. It alleged that “[d]efective pairs are the result of manufacturing defects and damage resulting from handling and environmental conditions,” and it noted that “defective pairs” and “breakage” are distinct concepts that need to be accounted for in a cost study. (VNJrb at 85).

Verizon NJ alleged that the parties that criticized its proposed distribution fill recommend excessive fill factors based on “optimally designed fill levels,” which “disregard the significance of ultimate demand engineering principles that require the installation of a minimum two pair per potential living unit for distribution facilities.” (Id. at 91; VNJrb at 81). Verizon NJ noted that although AT&T witness Fassett acknowledged that two pair per living unit is the minimum engineering criteria, AT&T is arguing that 1.5 pairs per living unit is appropriate. (VNJrb at 81-82). Verizon alleged that, as discussed by its engineering witness Gansert, the two pair per minimum living unit standard requires that cable pairs be placed in the terminal boxes that are immediately outside of the customer locations. Thus, even if two available pairs are in a box located just a few doors away from a customer location which has another terminal box in front of it, both pairs in the first box cannot be used to provide service just a few doors away. (VNJrb at 82, 3T646). Accordingly, VNJ maintained that the two pair per living unit requirement has to be extended deep into the distribution network. (VNJrb at 82).

Verizon NJ also responded to WorldCom’s assertions that its distribution cable utilization would result in an excessive amount of spare capacity, which Verizon NJ could use to serve future customers. Verizon NJ explained that the spare capacity that is the product of its fill factors is necessary to serve current demand and is based upon the need to design plant with at least two pairs per potential living unit. (VNJrb at 80, 81; 86-87). VNJ asserted that the “excess demand cushion” is needed so that current customers including customers of WorldCom and other CLECs, are not “affected by service [disruption] held orders, and the dislocation and costs associated with the need for frequent facility argumentation and rearrangement due to uneven—

and, in terms of specific location and timing unpredictable – emergent requests for new service.” (VNJrb at 86-87). VNJ maintained that the “spare capacity” is the equivalent of inventory that needs to be maintained in order to serve all customers. (VNJrb at 87). According to VNJ, spare capacity costs are no different than the carrying costs for inventory, and such carrying costs are recovered by customers purchasing current products. (Ibid.). It maintained that future customers will have their own level of demand and will need to pay the carrying costs associated with their own “spare capacity.” (Ibid.). For the foregoing reasons, based upon ultimate design engineering standards and taking into account the volatility of demand and other factors that influence the ability to use pairs within a cable, Verizon NJ urged that the 40% distribution fill level that it proposed be adopted.

### **Advocate Position**

The Advocate proposed a distribution fill level of 53% based upon an analysis undertaken by its witness Scott Lundquist. The analysis calculated a distribution fill factor as “a value midway between the embedded fill level and the objective fill level prescribed in the Company’s engineering guideline and adjusting for breakage (discrete sizing) effects.” (See RPA-18 at 32). The Advocate maintained that this method is consistent with the development of fill factors used by Verizon NJ for loop electronics and fiber cable. (Ab at 62). The Advocate argued that its method differs from Verizon NJ’s ultimate design theory in that it sought to size the network recognizing that growth will occur in increments rather than on a basis of ultimate demand, and that its fill factor level is conservative because it does not account for the increased use of line sharing and pair-gain systems, which should increase loop fill factors. (Id. at 58, 61-62).

The Advocate alleged that Verizon NJ’s distribution fill factors were not forward-looking because they were based “on an unacceptable combination of embedded utilization rates and ultimate demand sizing of its plant.” (Id. at 58). The Advocate further alleged that Verizon NJ introduced no evidence explaining the reasonableness of its reliance upon embedded fill levels, which had been rejected by the District Court in reviewing the Generic Order, and that the FCC in connection with its Universal Service Order had rejected the use of “ultimate demand” design concepts in determining fill factors. (Id. at 58-59, 61). The Advocate also cited to a recent Administrative Law Judge decision recommending that the New York Public Service Commission order the use of a 50% distribution fill factor by Verizon New York. (Id. at 62). The Advocate argued that Verizon NJ’s fill factor “would retard competition by improperly and

unnecessarily shifting costs for spare distribution facilities to present – day competitors” (Id. at 58), and it urged that its more appropriate distribution fill factor be adopted.

### **AT&T Position**

In the HAI Model, AT&T used a distribution fill level input of 75%, which produced an effective fill level of approximately 48%. The effective fill level of 48% is the ratio of facilities being used versus the total facilities available and accounts for breakage. AT&T argued that the 48.8% fill level it has proposed for distribution provided for ample spare capacity and is consistent with the fill levels adopted by the FCC in connection with the development of the Universal Service Fund cost model and is also consistent with fill factor levels adopted by other jurisdictions, including the New York Public Service Commission and the Kansas Corporation Commission, which it cited as having adopted fill factors for distribution of 50% and 53% respectively. (AT&Tb at 127). AT&T also alleged that there should be less growth in additional lines as a result of DSL and that there are no unusual conditions in New Jersey that have been identified by Verizon NJ requiring a higher fill level than in other states. (Id. at 129). Additionally, AT&T alleged that Verizon NJ’s argument that a certain number of idle pairs should be assumed to be defective is unwarranted because “newly installed cables are essentially free of defects.” (Id. at 130). AT&T alleged that Verizon NJ has not offered any evidence that the levels of spare capacity that it assumed for distribution are necessary or reasonable, and it concurred with WorldCom that requiring CLECs to pay for such a level of spare capacity would be discriminatory and a barrier to competition. (Id. at 132.)

### **WorldCom Position**

WorldCom recommended that the Board adopt a copper distribution fill factor of 75% as its forward-looking fill level. According to WorldCom, 75% fill factor had been adopted by both the FCC and Michigan Public Service Commission. (WCb at 29). It alleged that such a fill level is necessary to prevent discrimination against CLECs. (Ibid.). Countering claims of Verizon NJ that a 40% fill level is appropriate to accommodate, among other things, future growth in demand, WorldCom alleged that the vast majority of VNJ’s distribution network is in place and if, in fact, there will be future growth, Verizon NJ should use a higher fill level in its cost studies because its network will be used more fully, not less. (Id. 28-29).

**b. Copper Feeder - Fill Factor**

**Verizon NJ Position**

Verizon NJ recommended a copper feeder fill factor of 69%, which it stated was based upon the mid-point between current fills and the point at which copper feeder will be required to be relieved. (VNJb at 94-95; VNJrb 88). Verizon NJ argued that, contrary to AT&T's claim, the HAI Model's 80% fill factor is not consistent with Verizon NJ's engineering guidelines, which, it asserted call for feeder cable to be relieved between three and five years. (VNJrb at 88). In addition, Verizon NJ argued that "AT&T's arguments ignore the fact that a fill factor used in a cost study needs to reflect a statewide average fill level and that it must have sufficient capacity to respond to changes in demand, including the uncertainty of where and when growth will occur." (*Ibid.*). Verizon NJ also asserted that its fill factor for copper feeder is not embedded; rather it is the mid-point between actual fill levels (which is the product of current engineering guidelines) and the level at which it is necessary for cable to be relieved. In opposition to the Advocate's recommended 85% fill factor, VNJ argued that the Advocate ignored Verizon NJ's engineering guidelines, which call for copper feeder to be replaced at the 85% utilization level and that "[t]here is no basis for assuming that a forward-looking provider could operate its network on an on-going basis at a fill level that is equal to the point at which all facilities need to be replaced." (*Id.* at 89). Verizon NJ further explained that the fact that its "forward-looking cost study assumes less copper than in the embedded network will not affect the overall average fill level necessary to operate the remaining copper loops." (*Ibid.*).

**Advocate Position**

The Advocate recommended a copper feeder fill factor of 85%. (Ab at 63). The Advocate argued that Verizon NJ's fill factor was "improperly grounded in a measurement of Verizon-NJ's embedded network, rather than a forward-looking model of efficiently deployed copper feeder plant." (*Id.* at 62). The Advocate also contended that as more fiber optic systems are deployed, there will be less of a need to replace copper facilities and this tendency should be taken into account when establishing fill levels. (*Id.* at 62-63).

## **AT&T Position**

The HAI Model proposed by AT&T used a copper feeder fill factor of 80%. (AT&Tb at 134). AT&T alleged that assuming 3% annual growth, the engineering relief point of 85% would not be reached for three years, and as copper feeder is replaced with fiber based DLC systems, the expected life of this capacity would increase. (*Ibid.*). AT&T alleged that Verizon NJ's 69% fill factor results in excess capacity because it "would not reach a utilization level of 85 percent for seven years -- far more than the planning period specified by Verizon's own engineering guidelines." (*Id.* at 135).

## **WorldCom Position**

WorldCom alleged that Verizon NJ's recommended fill level of 69% is based upon embedded fill levels and thus is inconsistent with TELRIC. WorldCom alleged that in a forward-looking, least cost environment, more DLC equipment will be installed and that "little new copper will be placed and existing copper feeder will grow to its objective fill of 90%." (WCb at 27). Thus, WorldCom recommended a copper feeder fill factor level of 85%.

### **c. Fiber Optic Feeder-Fill Factor**

#### **Verizon NJ Position**

Verizon NJ's cost studies assumed a utilization factor of 77.4% for fiber optic feeder cable. (VNJb at 96). Verizon NJ explained that the 77.4% fiber fill factor was the mid-point between Verizon NJ's actual fiber strand fill level (58.92%) and the level at which capacity relief (96%) would be required. (*Ibid.*). Verizon NJ asserted that this is a reasonable forward-looking level "because it recognizes that for an actual operating telephone company, on average, a number of cables will always consist of newer installation and a number will be at or close to the relief point," and it "recognizes that additional reserve capacity (*i.e.* unused fiber strands) is necessary to address unforeseen changes in demand ... [and] it allows for strands of fiber to be available for repair and administration purposes." (*Ibid.*). Verizon NJ argued that AT&T's proposed 100% fiber fill factor was excessive because it "deprives a telephone company of the ability to properly maintain its network and to respond to changing demand requirements." (*Ibid.*). Verizon NJ contended that AT&T's argument that "fiber optic cable has infinite capacity and that it can always be enhanced simply by adding more electronics at the cable's end, without the need to

install additional cable is untrue. It noted that “[f]iber optic cable comes in different strand sizes because, among other things, multiple strands of cables are necessary to serve different customers and different locations.” (Ibid.;VNJrb at 90).

### **Advocate Position**

The Advocate recommended a fiber feeder fill factor of 85% based on the factor adopted in Pennsylvania. (Ab at 63). In addition, the Advocate claimed that Verizon NJ’s fiber fill factor did not comply with TELRIC because it was “based on embedded facilities.” (Ibid.).

### **AT&T Position**

AT&T argued that the appropriate fiber feeder fill factor was 100%. (AT&Tb at 135). AT&T maintained that given the inherent physical nature of fiber cable, there “is no justification for using a fill factor that is less than 100%. It explained that fiber cable “is reinforced by upgrading the electronics at either end; after-the-fact reinforcement thus is quick and without a cost penalty comparable to after-the-fact reinforcement of buried copper plant.” (Id. at 136).

## **d. Loop Electronics-Fill Factor**

### **Verizon NJ Position**

Verizon NJ’s cost study assumed a utilization rate of 80.85% for plug-in circuits and a utilization factor of 67.9% for channel banks. (VNJb at 95-96). The channel unit plug fill level of 80.85% was based upon the mid-point between Verizon NJ’s actual fill level of 66.7% and the relief point of 95%. (Id. at 96). Verizon NJ explained that this fill level was reasonable because it recognized that, on average, forward-looking efficient fills will range between recently installed equipment fill levels and the equipment relief point. (Ibid.). Verizon NJ further explained that the 67.9% loop electronics assumption for channel banks was also based upon the midpoint between the objective fill levels and actual fill levels in its existing network which, VNJ asserted, recognizes that no company can operate at optimal efficiency level on average and that an efficient company on a going forward basis would operate at a level between the relief point and the initial installation level. (Id. at 97). It argued that “[o]peration of all the facilities in a network at the point where they will need to be relieved is contrary to sound engineering principles.” (VNJrb at 91). It also asserted that parties’ recommendations of the same fill factors for channel

banks and plug-in circuits “ignores the engineering realities that these are two very different pieces of equipment requiring different expansion intervals, as well as different modularity implications.” (Ibid.).

### **Advocate Position**

The Advocate argued that the loop fill factors for both channel banks and plug-ins should be set at 85%. (Ab at 65). The Advocate claimed that Verizon NJ’s loop fill factors were based on its embedded network and conflicted with its own engineering guidelines. (Id. at 64). However, the Advocate asserted that the 90% to 95% recommendations by the other parties were extreme, and instead, the Advocate recommended an 85% level consistent with the level used by the Pennsylvania Public Utilities Commission in a 1997 decision.

### **AT&T Position**

The HAI Model used a 90% electronic loop fill factor. (AT&Tb at 136). AT&T asserted that this is a conservative level “in light of the relatively high carrying cost of excess electronic capacity and the relatively ease of upgrading the capacity of such electronic equipment.” (Ibid.). AT&T argued that Verizon NJ’s electronic loop fill factor was unduly low and conflicted with Verizon NJ’s engineering guidelines, which recommend that certain electronic equipment operates at or near capacity. (Ibid.).

### **WorldCom Position**

WorldCom argued that the loop fill factor should be 90% for channel banks (WCb at 30) and 95% for plug-ins (Id. at 31). WorldCom alleged that Verizon NJ’s recommended channel bank and plug-in fill factors are based upon embedded network characteristics and are inconsistent with its own internal engineering guidelines. (Id. at 29-32).

## **Board Discussion**

### **Distribution-Fill Factor**

In determining the appropriate fill factor for a cost study, it is necessary to balance the need for the ILEC, Verizon NJ, to have sufficient spare capacity to provide the high quality of service required by this Board against the need to prevent CLECs from paying for excessive capacity.

After analyzing the engineering and expert testimony of the witnesses, and considering in detail the arguments set forth in the post-hearing initial and reply briefs, the Board **FINDS** that for copper distribution plant, the forward-looking fill level proposed by VNJ should be revised upwards to 53% based on the recommendation of the Advocate. We reject Verizon NJ's use of ultimate design criteria in modeling forward-looking distribution plant. Ultimate design theory is an inefficient approach that fails to consider changes and improvements that affect the network today. On a forward-looking basis, we would expect that many of the innovations that we are currently seeing deployed today, such as line splitting and line sharing, will positively impact the need for a second telephone line in many homes and prolong the usefulness of the existing network reducing the need for augmentation.

While it is difficult to quantify the impact of such innovations as line sharing and line splitting at this time, we are convinced that the past engineering guidelines will be positively impacted by their introduction. Although we do not explicitly adjust for their inclusion, we would expect to see an overall reduction in lines used for the express purpose of connecting to the Internet. More importantly, however, is our belief that Verizon NJ's use of a 40% distribution fill factor is the product of an embedded design that is at least partially the result of an inefficient rate base, rate of return environment. Although the Company has argued that it has been operating more efficiently since the approval of its alternative form of regulation, no adjustments were made to its calculation to differentiate between distribution cable fill pre and post VNJ's alternative form of regulation.

The use of a 53% distribution fill factor provides sufficient spare capacity to address growth, service quality, breakage and defective pairs. According to our calculations, the application of a 53% fill factor results in 1.89 lines allocated per living unit ( $1/.53=1.89$ ) as compared with 2.5 lines per living unit ( $1/.40=2.5$ ) if using Verizon NJ's 40% fill factor. This compares favorably with the actual average number of lines per living unit of 1.3 that currently exists in Verizon NJ's network. (VNJb at 89). In adopting the Advocate's distribution fill factor of 53%, we are satisfied that the calculation is not only consistent with the development of other fill factors herein, but provides for sufficient excess capacity to serve future customers. In arriving at our decision, we expressly reject the use of not only Verizon NJ's proposed 40% distribution fill factor, but also the proposals of the other parties that sought higher distribution fill factors. In rejecting the other proposals, we do so because they failed to properly consider the relationship of VNJ's existing

and objective distribution fill. Only by examining this relationship is it possible to adequately plan for cable relief without jeopardizing service quality.

### **Copper Feeder Fill Factor**

After carefully considering the testimony in the record and the arguments set forth in post-hearing briefs of the parties, the Board **FINDS** that the copper feeder distribution fill level should be revised to 75%, which represents the mid-point between Verizon NJ's actual fill level and the relief point of 85%. (VNJb at 94). We find that the 80% fill level proposed by AT&T and the 85% level recommended by the Advocate and WorldCom are excessive levels. First, we note that feeder distribution levels proposed by Verizon NJ are not the embedded or actual feeder fill levels in its existing network. Instead, they are the mid-point between the actual fill levels and the level at which the facility would be required to be relieved under Verizon NJ's engineering guidelines. These guidelines call for feeder cable to be designed so that it can be relieved between three and five years when it reaches an 85% threshold point. (VNJrb at 88). The arguments by the CLECs and the Advocate that copper feeder levels should be at 80% or greater for cost study purposes, ignores the fact that the feeder fill level in a cost study must reflect the statewide average fill level for all feeder cable in the network on a forward-looking basis. Thus, the statewide average must have sufficient capacity within the individual routes that make up the average, to respond to widespread changes in demand, including the uncertainty of where and when growth will occur. Contrary to the assertions of the CLECs, feeder cannot be designed based upon an unrealistic assumption that growth and changes for every feeder route will be uniform and consistent with the statewide average. Thus, while the statewide average growth may approximate 3%, it is extremely likely that particular routes will experience substantial growth and others will experience minimal growth levels. The 75% copper feeder fill factor provides sufficient flexibility to address volatility and demand throughout the network.

We also reject the proposal by the Advocate that copper feeder be assumed to operate at an 85% level. The 85% level is the point at which sound engineering guidelines call for cable to be relieved. Thus, there is no reasonable basis to conclude that, even in a forward-looking cost study, an ILEC could operate its network on an ongoing basis at a fill level that is equal to the point at which facilities need to be replaced. Similarly, we reject WorldCom's arguments, which are also supported by the Advocate, that for cost study purposes copper feeder level fills should

be increased because, in a forward-looking network, more fiber facilities will be deployed. The fact that there may be fewer copper feeder facilities in a forward-looking network does not mean that those facilities can effectively operate at higher levels of fill. There simply is no logical basis to conclude that the average fill level necessary to operate and maintain copper feeder should increase because there are fewer copper facilities throughout the network.

For the foregoing reasons, we find that a copper feeder fill level of 75%, representing the mid-point between actual fill levels and the relief point level, is reasonable and reflects an efficient level of capacity for an operating local exchange company required to provision UNEs.

### **Fiber Optic Feeder-Fill Factor**

We **FIND** that the fiber optic feeder cable fill level of 77.5% proposed by Verizon NJ is reasonable. The level is based upon the mid-point between Verizon NJ's existing network actual average fiber strand fill level of 58.92% and the level at which capacity relief (96%) would be required. We believe that this mid-point approach recognizes that for an actual operating telephone company, on average, a number of cables will always consist of newer installations and a number of other cables could be at or close to the relief point. The 77.5% fill level properly recognizes the diverse percentage of utilization that may exist throughout the network. The 77.5% fill level also properly recognizes that additional reserve capacity (i.e., unused fiber strands) is necessary to address unforeseen changes in demand and is necessary for repair and administrative purposes.

We reject AT&T's recommendation that fiber optic cable should always be assumed to be operating at 100% capacity. There is no reasonable engineering basis to conclude that all fiber strands should be operating in a particular cable and, as pointed out by Verizon NJ, a network designed to operate at 100% fill for its fiber strands would realize maintenance problems because no available strands would exist in the event a strand requires repair or an additional strand is needed for growth.

### **Loop Electronics-Fill Factor**

For reasons similar to those expressed above regarding our determination for copper feeder level and fiber optic cable fill levels, we **FIND** that the utilization levels for electronic loop equipment (68% for channel banks and 81% for plug-in units) proposed by Verizon NJ are reasonable and reflective of the utilization levels a forward-looking efficient company could be expected to achieve. First, contrary to the assertions of the CLECs and the Advocate, the utilization levels proposed are not the embedded utilization levels. The levels are the mid-point between the existing utilization levels and the point at which the facilities would have to be relieved. While the CLECs and the Advocate recommend that for cost study purposes electronic fill levels should be at the maximum level called for by Verizon NJ's engineering guidelines, operation of all facilities in the network at the point where they will need to be relieved is contrary to sound engineering principles. (See VNJ-1, at 3).

We also find that the recommendation that the channel banks and loop electronic plug-ins be established at the same fill level ignores the engineering realities, noted by Verizon NJ, that these are two very different pieces of equipment requiring different expansion intervals, as well as different modularity implications. The 81% fill level for channel units recommended by Verizon NJ reflects the fact that such units cannot operate at capacity and should always have certain growth and reserve capacity. Moreover, 81% represents a system-wide average, which recognizes that a percentage of such facilities will be newly installed while others will be operating at levels close to the relief point. Similarly, Verizon NJ's channel bank utilization level of 68%, the mid-point between actual utilization levels and the relief point, is reasonably reflective of how an operating telephone company on a system wide average would operate such facilities. Contrary to the arguments of the CLECs, there is no reasonable basis to conclude that an operating company could operate, on average, all of its electronic facilities at or close to engineering relief points.

## **7. Support Structures**

### **a. Percentage Of Aerial vs. Buried vs. Underground Structure**

#### **Verizon NJ Position**

In its cost study, Verizon NJ assumed what it described as a forward-looking mix of structures for distribution aerial, underground and buried cable of 76.6%, 14.4% and 9.1%. (VNJb at 98). In support of its assumptions, the Company refuted claims that its mix of distribution structures was based on the embedded network and stated that, in contrast to its recommendation, “the embedded existing network consists of the following distribution structure mix: 15% buried, 25% underground and 60% aerial.” (VNJrb at 93). Verizon NJ further explained that “[r]ather than simply rely upon the current network structure mix, the Verizon model develops its structure assumptions based upon information provided by engineers operating in each of the distribution areas in Verizon’s network.” (*Ibid.*). In addition, Verizon NJ noted that “[b]ecause wire center locations, customer locations, streets, roadways, mountains, and soil conditions will all remain the same, it is entirely reasonable to assume that the forward-looking structure to provide service in New Jersey is comparable to the existing one.” (*Ibid.*).

Verizon NJ also argued that the HAI Model “arbitrarily assumes a structure mix that could not be reasonably expected either from a historic perspective or on a forward-looking basis for New Jersey.” (VNJb at 98). Verizon NJ argued that the HAI Model understated costs because it substantially understated the amount of underground facilities (3.8% in HAI Model versus 25% in Verizon NJ’s actual network) that could reasonably be expected in New Jersey and used a disproportional amount of less expensive buried facilities and unsubstantiated installation cost estimates. (*Id.* at 99-100). Verizon NJ also claimed that AT&T’s assumption that almost 20% of all aerial lines could be served by aerial cable with no poles or other support structures for the distribution segment of the loop further contributed to the cost understatement. (*Id.* at 100). Rejecting the validity of AT&T’s assumption, Verizon NJ’s engineer Joseph Gansert stated:

The Hatfield Model includes no structure costs for [certain aerial block] cable because it assumes that the block distribution cable can be “tacked” to walls or hung from buildings without the use (or cost) of any related structure. The truth of the matter is that while cable on the company books may be accounted for as “block cable” real structures -- in the form of backyard poles -- are required to support this cable. These costs have been ignored in

the Hatfield Model's world. To simply assume that 40% of the lines served by aerial distribution cable in New Jersey can be placed without any supporting structure makes no sense.

[Ibid.; VNJ-7, at 24-25].

Verizon NJ also argued that the HAI Model's substantial understatement of costs was evidenced by the fact that "the percentage of pole investment in the Hatfield Model is 4.4% of Verizon NJ's actual pole investment and the Hatfield Model conduit investment is approximately 6.8% of Verizon NJ's actual investment." (Id. at 100-101).

### **AT&T Position**

AT&T's HAI Model assumed a structure mix of 50.6% buried, 27.1% aerial lines with poles, 18.4% aerial lines with no poles or structure (i.e., "block" cable), and 3.8% underground, which AT&T maintained reflected forward-looking technology based on the judgment of engineering experts. (AT&Tb at 137; AT&Trb at 65). AT&T argued that its "high percentage of buried distribution cable is plainly proper in a forward-looking cost model because it reflects forward-looking technology," including water-blocking compounds making a higher percentage of structure in low-lying coastal suburban areas able to be buried, and reliable splice closure of the type required for buried facilities." (Ibid.; AT&Trb at 66). It also contended that it reflects the public desire for more out-of-sight plant. (AT&Trb at 66). AT&T argued that, in contrast to its structures mix, Verizon NJ's structure mix is based on the Company's embedded network and therefore is not forward-looking. (Ibid.).

In defense of its block cable assumption, AT&T maintains that the HAI Model's assumptions about the percentage of lines that can be served by block cable is reasonable because it only assumed that block cables are located in the two highest density zones, where the lines are commonly located in high-rise and other multi-tenant buildings. In such situations the company avers that aerial cable can be attached to the sides and backs of such buildings, without the need for additional structure. (AT&Trb at 67).

AT&T also explained that VNJ's criticisms regarding the reduction in overall structure costs from an older version of its cost models were unfounded. According to AT&T, the HAI Model relied upon in this case reclassified the highest density zone in its model into three separate zones to

reflect more accurately the environments in which local networks exist. Thus, the lower cost reflected in the HAI Model results not from an assumption that structure and material costs (such as poles and copper cable) have decreased in the market since 1997, but rather from the reclassification of a substantial number of lines into other density zones with far lower costs. (Id. at 68).

In contrast, AT&T argued that VNJ inadequately defended its own structure mix assumptions. As explained by AT&T, VNJ's structure mix was based primarily on a survey of its engineers that was conducted between 1993 and 1995 and is the same survey that BA-NJ, the predecessor company to Verizon NJ, relied upon in the 1997 proceeding before this Board. As designed, the survey called for, what AT&T described, as "pure guess work" as to what structure would be used for whatever cable VNJ happened to have in the planning pipeline on some unknown day six, seven, or eight years ago. (AT&Tb at 44-45; AT&Trb at 68-69).

#### **b. Structure Sharing**

##### **Verizon Position**

Verizon NJ asserted that it adopted an aggressive forward-looking sharing assumption "under which Verizon NJ pays only 43% of the total costs associated with poles that serve its network." (VNJrb at 94). Verizon NJ explained that its study assumed that 50% of pole costs would be shared with electric companies and that Verizon NJ's 50% would be reduced by an additional 7.4% to account for sharing with cable television ("CATV") companies. (VNJb at 101). In addition, Verizon NJ stated that it aggressively assumed that 4% of conduit will be shared although the actual percentage of Verizon NJ-owned conduit shared with other providers is less than 1% VNJ explained that because conduit cannot be shared by telephone and electric companies and it is not expected that redundant CATV facilities will be constructed in New Jersey, "the sharing opportunities for conduits are minimal." (Id.).

Verizon maintained that the Hatfield Model "significantly underestimates the amount and cost of structures and then overestimates the 'contribution' of potential other parties (electric companies and communications carriers)." (VNJb at 102). Verizon NJ argued that a major unrealistic assumption in the HAI Model is that 75% of all aerial structure costs (telephone poles, guy wires, anchors, installation, etc.) in the model's seven highest density zones, which consists of

98% of lines in New Jersey, is paid by companies other than Verizon NJ. (Ibid. at 102). Verizon NJ stated:

The Hatfield Model assumption that four separate companies are always attached to virtually every pole used by Verizon is not realistically achievable even by an “idealized” efficient carrier. First, the assumption assumes more facilities than are likely to ever be in place. In New Jersey, only one CATV company generally serves a given geographic area. Also, there are only limited instances where other telephone companies have, or are likely to, install cables on local distribution poles.

[Ibid.].

Verizon NJ also argued that the HAI Model’s assumption that 66% of underground installation structure costs will be borne by companies other than Verizon NJ is also unrealistic and understates costs. (VNJb at 102-104). VNJ noted that due to safety and separation issues, conduit cannot be shared by telephone and electric companies, and it is unlikely that two-thirds of the underground structure costs would be borne by CATV or other telephone companies. (VNJb at 103).

### **Advocate Position**

The Advocate initially recommended a 50% pole line structure sharing input. (Ab at 65-66). The Advocate argued that this figure “is supported by the New York Public Service Commission and the record in this proceeding and had been agreed to by Verizon NJ.” (Id. at 66). In its reply brief, however, the Advocate noted that Verizon NJ’s Cost Study had added a structure sharing reduction of 7.4% for sharing with CATV companies, in addition to the 50% structure sharing with electric companies, resulting in VNJ proposing a 42.6% sharing figure. (Arb at 32). The Advocate in its reply brief recommended that the Board adopt a 42.6% structure sharing level. (Id. at 33).

## AT&T Position

AT&T noted that the HAI Model “input for structure sharing examines the extent to which cable supporting structures (such as poles, ducts, and conduits) are assumed to be shared between the supplier of unbundled network elements in New Jersey and other entities, such as power companies and cable TV carriers.” (AT&Tb at 138). In addition, AT&T explained that the HAI Model “assumes that supporting structure will be shared between a local telephone carrier, such as VNJ, and other utility companies in New Jersey.” (*Ibid.*). Specifically, AT&T assumed that poles are divided into two parts: a low voltage portion and a high voltage portion. In its study, AT&T allocated 50% of the low voltage portion of the pole to other utilities and 50% to telecommunications providers. In addition, it assigned 100% of the high voltage portion of the pole to the electric utility since only electric providers use that portion of the pole. (AT&Trb at 70-71).

Responding to VNJ’s criticism that the HAI Model used unrealistic sharing assumptions, AT&T asserted that “on a forward-looking basis, the percentages of shared structures will dramatically increase, as carriers and utilities desire to place more facilities on the existing structures in order to save costs and an efficient carrier’s incentives to engage in structural sharing increase.” (AT&Trb at 70). It also contended that its 25% aerial structure sharing in effect represents 50% of the costs of the low-voltage portion of the pole structure, with the electric company assuming all costs of the high-voltage portion. (AT&Trb at 71). As to the underground sharing, AT&T alleged that on a forward-looking basis, the sharing of underground structure will significantly increase. Citing to new conduit installations in cities for cable placement for new telecommunications providers, it argued that “[a]s more competing carriers enter the marketplace and CATV penetration increases, the sharing of underground structure will only increase in most metropolitan areas.” (*Id.* at 72-73). It also contended that there is increasing pressure by regulatory bodies and the public to locate plant “out-of-sight.” (*Id.* at 73).

### **c. Pole Placement**

#### **Verizon Position**

Verizon NJ argued that its average 150 foot pole spacing distance assumption was forward-looking and conservative. (VNJb at 104). Verizon NJ stated that its average 150 foot assumption takes into account the fact that “a 100 foot pole spacing assumption is more realistic for highly urban and dense suburban areas of New Jersey.” (*Ibid.*). Verizon NJ stated that the HAI Model’s assumed minimum 150 foot pole distance resulted in over 42% of Verizon NJ’s access lines being served by poles placed at distances of 200 feet and greater. (*Ibid.*). Verizon NJ further argued that the HAI Model’s understatement of pole cost was “evident by the fact that the model assumes that only 260,000 poles are required to serve all of New Jersey, while the number of actual poles utilized by Verizon is 1.5 million, almost five times the number of poles included in the Hatfield Model cost results.” (*Ibid.*). VNJ urged the Board to accept its “New Jersey specific pole placement assumption” and reject the “non-New Jersey Hatfield Model assumptions.” (VNJrb at 97).

#### **Advocate Position**

The Advocate argued that the Board should “adopt the pole spacing parameters developed in the FCC’s Universal Service Order,” which recommended 250 feet for cost model density zones 1 and 2; 200 feet for zones 3 and 4; 175 feet for zones 5 and 6; and 150 feet for zones 7, 8, and 9. (Ab at 66-67). The Advocate alleged that Verizon NJ’s pole spacing recommendation was improperly based on embedded costs and, therefore, should be rejected. (*Id.* at 67). Instead, the Advocate urged the Board to use the FCC’s pole placement spacing, which the Advocate maintained reflects parameters expected of an efficient provider. (Arb at 34).

#### **AT&T Position**

AT&T stated that the HAI Model’s pole distance assumptions, which it alleged are consistent with those adopted by the FCC in connection with its Universal Service Model use “distances ranging from 250 feet between poles in the two HAI Model density zones of less than 100 lines per square mile, to 150 feet between poles for the four HAI Model density zones of more than 2,550 lines per square mile.” (AT&T at 140). AT&T noted that the HAI Model only assumed that poles would be spaced apart by 200 or more feet in zones comprising “less than 11 percent of

the total living units in New Jersey.” (AT&Trb at 75). AT&T also argued that the actual number of poles utilized by Verizon NJ in its embedded network is immaterial to the issue of how poles would be spaced by an efficient provider.

**d. Other Issues: Poles, Conduit And Drop**

**Verizon NJ Position**

Verizon NJ argued that due to unrealistic input assumptions, the HAI Model further understated structural investments, such as guy-wires and anchors. (VNJb at 105). For example, Verizon NJ challenged the HAI Model’s assumption that one guy wire and anchor should be placed every 1,000 feet of pole line and stated:

pole line construction is specific to geography and area. At best, under idealized conditions, there is only one anchor and guy every 1,000 feet. At worst, it could be one on every other pole or even every pole. One only has to take a ride through hilly residential neighborhoods in Northern New Jersey and short residential blocks in the downtown section of Newark or the urban Hudson River communities to ascertain the fact that rarely does one encounter a 1,000 foot run of utility poles with only one guy wire and anchor.

[Ibid.].

Verizon NJ listed several other alleged erroneous default assumptions in the HAI Model. Verizon NJ argued that HAI Model’s \$417 installed pole cost assumption, compared to Verizon NJ’s actual average installed pole cost of \$1,156, was arbitrary and not New Jersey specific because it was calculated by “cobbling together a pole material estimate (\$201) from one non-New Jersey contractor with the installation component (\$216) supplied by a different non-New Jersey contractor.” (Id. at 106). Verizon NJ also argued that AT&T’s input assumptions for the cost of remote terminal enclosures improperly assumed that all remote terminals could be located above ground on either pads or poles, or in buildings, at little or no cost. (Id. at 107). Verizon NJ asserted that this assumption was unattainable because:

the selection and acquisition of each site is subject to extensive research and negotiation with . . . property owners . . . [and] the Hatfield Model’s idealized concept that these sites can be selected

purely by mathematical algorithms is wishful thinking at the very least and completely ignores the real world problems that actual telephone companies confront every day in their operations.

[Ibid.].

VNJ also noted that remote terminals often need to be located underground, resulting in structure expenditures generally more than twenty times the amount assumed by the Hatfield model, for a pad or pole. (Ibid.).

Verizon NJ additionally claimed that the HAI Model understated costs for manholes and conduit because it assumed that every manhole could be installed at its default value and that recast manholes could be installed in all situations at a set price. (Id. at 107-108). Verizon NJ also argued that the Advocate's recommended \$733 average pole cost, which was the input value used in Massachusetts, should be rejected because it did not reflect the costs associated with purchasing, installing and disposing of poles in New Jersey. (VNJrb at 97-98). In response to AT&T's criticism that the Verizon NJ Model overstated drop length, the Company asserted the criticisms are unfounded and that the 100 foot aerial drop assumption in Verizon NJ's study is based upon Verizon's engineers who have had experience in providing service in New Jersey. (Id. at 98).

### **Advocate Position**

The Advocate argued that the Board should adopt a \$733.67 unit cost for poles, "based on the application of the NYNEX-Massachusetts UNE Cost study brought forward to the year 2000 and applying Verizon-NJ's Telephone Plant Index ("TPI") inflation factors." (Ab at 67). The Advocate claimed that the use of Massachusetts's data was appropriate because "poles are commodities and the input for poles do not vary from state to state." (Id. at 68). The Advocate criticized VNJ's approach as based on its embedded costs and not TELRIC compliant. (Ibid.).

### **AT&T Position**

AT&T argued that unlike the HAI Model, Verizon NJ's Cost Model substantially overstated costs for poles, conduits, and drops. (AT&Tb at 142). AT&T argued that its pole costs "capture[d] the efficiencies that would be realized under the sequential installation method that would be used

in the forward-looking, 'scorched' node TELRIC environment.” (Ibid.). In addition, AT&T stated that Verizon NJ misapplied a duct utilization factor to the duct investment costs because the model assumed only two fiber sheaths per duct. According to AT&T “VNJ’s cost model already leaves ample space for additional fiber sheaths if demand warrants.” (Id. at 142-143). AT&T also argued that, unlike Verizon NJ’s 100 foot average drop length, its “calculation of drop investment is well-supported and reliable” because it “calculate[d] separate material costs for NIDs and material protectors, depending on the number of lines terminated -- which is a more accurate approach than the single-input approach taken by the FCC in calculating the forward-looking costs of telephone service.” (Id. at 142). AT&T further argued that VNJ provided no justification for its use of an average drop length of 100 feet to develop drop investment cost. Because a recent study by Bellcore concluded that the average drop length nationwide is only 73 feet, and VNJ has presented no evidence that its drops in New Jersey differ materially from drops nationwide, the 73-foot average drop length should have been used, according to AT&T. (Ibid.).

AT&T alleged that its costs of manholes, trenching, and other outside plant items were valid because they were established “by an experienced team of outside plant engineers and construction managers with extensive experience in the area, including the awarding of contracts for both materials and labor necessary to construct OSP facilities.” (Id. at 144). AT&T similarly argued that its remote terminal costs were valid because they also “were estimated by a team of outside plant experts with extensive experience in contracting for remote terminal site installations.” (AT&Trb at 78).

### **Board Discussion- Support Structure**

#### **Percentage of Aerial Versus Buried Versus Underground Structure**

We **FIND** that Verizon NJ’s proposed assumptions regarding the mix of structures for distribution facilities set forth in Verizon NJ’s cost study are unreasonable because the distribution structure mix is based primarily upon the assessments of its outside plant engineers responsible for specific geographic areas throughout New Jersey when detailed Company-specific data is available, which could be used as the basis for a forward-looking analysis. We are unconvinced that the judgment of Verizon NJ’s engineers from a survey that was conducted between 1993 and 1995, properly reflects a forward-looking structure mix that should apply to the entire network. At no time did Verizon NJ attempt to validate whether the surveys produced

estimates that would be valid today. In its study, Verizon NJ recommended the use of a structure mix that included 76.6% aerial, 14.4% underground and 9.1% buried. AT&T, on the other hand, recommended a mix of 50.6% buried, 45.5% aerial, of which 27.1% used poles and 18.4% no poles (block cable) and 3.8% underground. These estimates by the parties compare to VNJ's existing structure mix of 60% aerial, 25% underground and 15% buried. The record has demonstrated that aerial structures tend to be more expensive than underground or buried structure. VNJ attempts use the judgment of engineers regarding what next structure should be deployed in an area as a surrogate for the entire area being modeled, without providing any evidence that the next structure is appropriate for the entire area. Similarly, AT&T makes unsupported assumptions that 50.6% of the forward-looking network would consist of buried cable. AT&T's assumptions have no basis in fact or reality. While we agree that a properly constructed forward-looking TELRIC study must rely on forward-looking technologies, it must also be constrained by existing wire centers and hence customer locations and other geographic considerations. AT&T's assumptions completely ignore these realities.

According to the Company, its structure assumptions properly recognize that existing wire center locations, customer locations, roadways, topography and that rights-of-way will not be changed in a forward-looking environment. That being the case, we would expect that on a forward-looking basis the structure mix of 15% buried, 25% underground and 60% aerial would not change materially from what it is today on average. As such, we **FIND** the Verizon NJ's existing structure mix should be utilized in the cost development of UNE rates.

### **Structure Sharing**

We **FIND** that the structure sharing recommendations proposed by Verizon NJ in its cost study are reasonable and reflective of the manner in which an efficient carrier providing service in New Jersey could expect to incur structure costs. In its model, Verizon NJ assumed that it shares 50% of the cost for all poles with electric companies and is reimbursed by CATV companies for 7.4% of the remaining 50% of its structure cost and we find these assumptions to be reasonable. We note that the manner in which Verizon NJ has calculated distribution from cable companies is based upon actual payments made by CATV companies pursuant to Board established pole attachment fees. The HAI Model assumption that Verizon would only incur 25% of costs for telephone poles is unreasonable because, without support, it assumed that in almost all instances CATV companies will pay equally towards the cost of poles and, moreover,

that an additional telephone company's facilities will be located on the poles. The assumption that additional CLECs will almost always be located on poles, particularly distribution poles, is unreasonable because it attempts to make projections without any factual basis. There is no indication that CLECs will deploy their own loops to the degree suggested by AT&T.

With regard to conduit sharing, we note that conduit cannot be shared with electric companies due to safety concerns of mixing electrical facilities with telecommunications, and there are only limited instances in which the actual conduit is being shared in New Jersey. Verizon NJ has indicated that less than 1% of its conduit is currently shared and we have no factual basis to increase this on a forward-looking basis beyond what Verizon NJ has proposed. Therefore, we find that its assumption that approximately 4% of its conduit could be shared on a going-forward basis is reasonable.

### **Pole Placement Assumptions**

Verizon NJ assumed that the average pole distance throughout its service territory is 150 feet. (VNJb at 104). Verizon's assumption is based upon its engineering standards as well as its determination that in a substantial number of urban areas in New Jersey poles are required to be placed at or less than 100 feet apart. (*Ibid.*). Both AT&T and the Advocate recommended that, for cost study purposes, poles be assumed to be placed at distances ranging from 150 to 250 feet depending upon the line density of the particular geographic area. (Ab at 67; AT&Tb at 140). We **FIND** that Verizon NJ's assumption of an average distance of 150 feet between poles is reasonable and reflective of the manner in which service would be provided throughout New Jersey. Verizon NJ's actual experience with regard to pole placement, and expert testimony that poles could not be reasonably placed at distances greater than 100 feet in certain sections of New Jersey, support the finding that Verizon NJ's average 150 foot placement assumption is reasonable. We reject AT&T's and the Advocate's assertions that their uniform default assumptions based exclusively upon the different density zones in the cost model, should serve as the determinant of pole placement in New Jersey. We base our decision, like that regarding support structures, on the fact that a properly constructed TELRIC study must be constrained by certain existing conditions because even in a forward-looking environment they will not materially change.

### **Other Issues - Poles, Conduit and Drop**

The active parties to this proceeding have proposed a wide range of pole costs, ranging from \$417 proposed by AT&T to \$1,156 recommended by Verizon NJ. As discussed above, the Advocate recommends an average pole cost of \$733 based upon a Massachusetts Public Utilities Commission decision. For the purpose of developing UNE rates in New Jersey, we **ADOPT** the Advocate's recommendation and use \$733 for pole costs. In arriving at our decision, we explicitly reject both Verizon NJ and AT&T proposals. We are concerned that Verizon NJ's proposal overstates forward-looking pole costs by including in its analysis all poles purchased over 30 feet from 1994 through 1998. In performing its analysis, Verizon NJ calculated pole costs based upon its actual investment and labor costs incurred with the installation of the poles. (VNJrb at 33). There are many reasons why poles are purchased including replacing damaged poles by accidents or to support additional structures. Without an analysis of each pole purchased during that time frame and its installation cost, we cannot confidently utilize Verizon NJ's proposal.

We find similar problems with AT&T's analysis and therefore reject its proposal. As pointed out by Verizon NJ, the AT&T estimate is based upon the lowest cost of poles from one contractor and the lowest installation estimate from another. Clearly, this may yield a combined result that would never result in the installation of a single pole unless the two entities agreed to work together with one supplying the poles and another supplying the labor. There has been nothing in the record to suggest that this would occur.

The Advocate's analysis, on the other hand, focused on a 40 foot pole that is sufficient to support basic telephone service as well as cable and electric service and is then adjusted to be forward-looking. We agree with the Advocate that the use of a 40 foot pole is an appropriately-sized pole for basic telephone, cable and electric service. Anything larger would likely be installed for specific customer requirements that should not be included in a wholesale cost study.

With regard to other ancillary issues related to structure costs, we find that the HAI Model unrealistically assumed that only one guy anchor for 1,000 feet of pole line is necessary. We are persuaded by the testimony of Verizon NJ engineer Joseph Gansert that the 1,000 foot assumption is appropriate only under idealized conditions, and that, on average, a 1,000 foot

spacing could not be achieved. We also find that the AT&T input assumptions for the cost of remote terminal enclosures, including its assumption that all terminals could be located above ground at minimal cost, is unrealistic. With regard to drop length, we are concerned that Verizon NJ relied entirely upon the judgment of its engineers in arriving at drop length of 100 feet without verifying the accuracy of their estimate with field data. We find that it is proper to adopt the 73 feet that was suggested by AT&T because Verizon NJ was unable to provide any specific evidence to support the premise that its drop lengths differ materially from the national average. We **FIND** this to be reasonable for drop lengths as opposed to some other factors, because if we would not expect that drop lengths would vary significantly from the national average.

## **E. Other Rate Issues**

### **Board Discussion**

For the reasons discussed above, we have found that the input assumptions, as modified by the Board, are reasonable and constitute reliable and informed forward-looking cost estimates. Accordingly, we **DIRECT** that these same modified input assumptions, such as cost of capital, fill factors, depreciation, etc., shall be applied to all other loop related UNEs and to all transport and interoffice UNEs. We reject all other recommended modifications by the parties not specifically adopted herein. We also reject the rates proposed by the Advocate and WorldCom based upon their recommended revised input assumptions to the Verizon NJ Cost Model. The specific recurring UNE rates for each density zone that we adopt based upon the Verizon NJ loop, transport and interoffice facility studies are set forth on Attachment A to this Decision and Order.

Although not raised during the hearing and in testimony, AT&T in its post-hearing brief argued that “the Board’s rates for unbundled network elements used in the provision of the UNE-P should reflect a discount of no less than 40% for an interim period of five years or until the Board either (a) has made a finding that competition exists in the residential and small business markets and is irreversible or (b) conducted a comprehensive review of UNE rates.” (AT&Tb at 15). Calling its proposal a “trust busting discount,” AT&T alleged that “[t]his discount is necessary to achieve the Board’s oft-stated goal of jump-starting local competition and, correspondingly, ending VNJ’s monopoly,” that it was “justified based on public policy grounds that are consistent with ONJ discounts, consistent with FCC merger discounts, consistent with

setting rates in a declining cost industry, and reflects VNJ's propensity to overstate costs." (AT&Tb at 15-16).

In its reply brief, Verizon NJ argued that AT&T's proposed discount is unlawful, confiscatory and unreasonable. (VNJrb at 12-16). Verizon NJ alleged that there was no basis, either in the Act or the FCC's regulations, for AT&T's proposal that UNE rates available to CLECs include a discount below TELRIC. (VNJrb at 12). Verizon NJ additionally argued that AT&T's discount proposal was not necessary to "jump start" competition, citing the fact that CLECs currently utilize their own facilities and resell services to provide competitive alternatives for local service. Verizon concluded that the "discount has one and only one purpose: to lower AT&T's cost of doing business at the expense of one of its primary competitors." (*Id.* at 13-14). Verizon NJ also argued that AT&T's unilateral discount plan was not consistent with other discounts, such as ONJ, because with regard to those other discounts, Verizon NJ had either proposed the discount or voluntarily accepted it. (*Id.* at 15).

The Board is fully committed to establishing and maintaining a regulatory environment that fosters competition at all levels within the telecommunications industry. The regulatory environment must be established consistent with the Board's lawful authority and in a manner that fairly protects and balances the interests of all providers, including ILECs, CLECs and New Jersey consumers. The standard for establishing UNE rates is clearly set forth in the Act, in the First Report and Order and in FCC regulations. UNE rates must be just and reasonable and non-discriminatory, and based upon the cost of providing the UNE, and may include a reasonable profit. 47 U.S.C. §252 (d); 47 C.F.R. §51.501 et seq. As discussed above, the cost based standard that is applicable, unless and until otherwise changed due to pending court actions, is the TELRIC standard. It is this Board's obligation, when establishing UNE rates, to adhere to the cost based standard set forth in the Act, and as interpreted by the FCC in its Orders and regulations. Accordingly, the cost information submitted in this matter must be and has been, evaluated by the Board on that basis.

Having established cost based UNE rates herein, we find no basis to reach the question of whether there might be circumstances in which a discount from cost based rates could be imposed without violating the Act and FCC's rules. We are unpersuaded by AT&T that circumstances now exist which would warrant such consideration. Given the rates which we have established herein, we have no reason to believe that CLECs who choose to do so will be

unable to compete with Verizon NJ. Accordingly, AT&T's request for a discount from cost-based rates is **DENIED**.

## **F. Transport/IOF Costs**

### **Statement of the Issue**

In this section, we discuss issues related to estimating forward-looking cost estimates for UNEs associated with transport and interoffice facilities.

### **Positions of the Parties**

#### **Verizon NJ Position**

Verizon NJ stated that as part of its cost study filing it "submitted detailed Transport & Termination Cost studies and Transport Tandem Switching and Dedicated Transport studies," which "were based upon Verizon NJ's engineering guidelines and forward-looking cost estimates for transport and interoffice facilities." (VNJb at 120). Verizon NJ also asserted that the 75% utilization level for interoffice transport assumed in its study properly "recognizes that growth and volatility in demand, on a systemwide average, require a forward-looking utilization level between actual levels and a level in which relief would have to be required." (VNJrb at 112). It argued that WorldCom's proposed change to the Verizon NJ Cost Study to assume a 90% utilization level, therefore, should be rejected. (*Ibid*).

Verizon NJ claimed that the HAI Model's interoffice and transport cost estimates should be rejected because the models contained unsubstantiated assumptions and engineering deficiencies, resulting in an understatement of equipment and facilities. (VNJb at 121). Verizon NJ stated, based on the testimony of its engineer Joseph Gansert, that the engineering deficiencies in the HAI Model's transport and interoffice facilities included, among other things: the use of incompatible technologies resulting in unworkable architecture; inefficient design due to oversized rings; insufficient levels of equipment; insufficient investment; and inconsistencies with basic engineering principles. (*Ibid.*; VNJ-7).

## **Advocate Position**

The Advocate asserted that “Verizon-NJ’s proposed rates for interoffice transport are based upon erroneous, non-TELRIC assumptions” because “the Verizon-NJ cost model assumed too much embedded, lower capacity interoffice transport, for carrying current traffic loads and should have assumed use of a forward-looking network with high capacity facilities.” (Ab at 81). The Advocate argued that the Board should reject Verizon NJ’s 75% utilization level for interoffice transport and should adopt a 90% utilization factor proposed by WorldCom’s economist August Ankum. (Id. at 82). The Advocate also cautioned that fiber loop feeder and fiber transport could utilize some of the same equipment in the central office, and the Board should make certain that those costs are recovered either through the loop or transport rates, but not both. (Ibid.).

## **AT&T Position**

AT&T argued that the rates calculated by the HAI Model for interoffice transport reflected an “efficient, forward-looking technology” and that VNJ’s calculation of transport costs was based on its embedded network and should be rejected. (AT&Trb at 87). AT&T dismissed as unfounded Verizon NJ’s allegations that its IOF/Transport costs reflected “substantial engineering deficiencies.” (AT&Tb at 162; AT&Trb at 87). Specifically, AT&T argued that Verizon NJ’s allegations that its model: (1) produced impossibly large and unrealistic ring configurations; (2) inappropriately produced rings with large numbers of nodes for non-rural areas; (3) produced too little ring terminal equipment; (4) did not recognize communities of interest among wire centers that could form the basis for determining the trunk demand and IOF transport demand between wire centers; (5) assumed only one ADM is required at each node on the large rings it constructs; (6) required manual cabling to interconnect the DS3s from one ring to another; and (7) provided only one connecting link between ring. (AT&Tb at 162-165).

## **Board Discussion- Transport/IOF Costs**

We **FIND** that the cost estimates produced by the Verizon NJ Cost Study for transport and interoffice related UNEs are reasonable and reflect forward-looking costs for the provision of transport and interoffice facilities and access to interoffice facilities in New Jersey. We find persuasive the testimony of VNJ’s witness Gansert that the HAI Model’s assumptions for

tandem switching costs and interoffice facilities deviate from sound engineering principles as a result of its failure to include sufficient levels of equipment. AT&T defended its model by arguing that Mr. Gansert's criticisms should not be considered because he has failed to quantify the extent of the deficiency and its impact on cost estimates. However, VNJ credibly explained that the HAI Model's assumptions deviate so greatly from sound engineering principles that it is difficult to discern, much less specifically quantify, the extent of their deficiencies. (VNJrb at 111).

We also reject the proposed changes by WorldCom and the Advocate to Verizon NJ's interoffice transport cost study to assume a utilization rate of 90% rather than 75%. The 90% utilization factor recommended by Dr. Ankum on behalf of WorldCom, and supported by the Advocate, is inconsistent with sound engineering principles because it is at the level of capacity at which the facilities would be required to be relieved. (Id. at 112). Utilization levels must be able to accommodate growth and volatility and demand on a systemwide average. To assume that 100% of an operating network interoffice transport facilities could operate at a 90% utilization level (i.e., the relief point) is not realistic. Accordingly, we accept as reasonable the 75% utilization rate proposed by Verizon NJ, particularly since this utilization represents the mid-point between actual utilization levels and the point at which facilities would be required to be relieved. This utilization level is reasonably reflective of how an efficient ILEC could be expected on average to operate its overall transport facilities.

## **G. Switching Costs**

### **Statement of the Issue**

At the outset of the proceeding, both Verizon NJ and AT&T filed switch cost studies to support their proposed switching and switch-related rates. The Verizon NJ Model is a series of modules written by Telcordia and is used in conjunction with VNJ-developed spreadsheets. AT&T relied on the HAI-developed switching model. Each of the models contained a plethora of inputs and assumptions, but none more significant than the assumptions related to switch discounts. The models produce a monthly port charge, as well as charges for originating and terminating usage at both the end office and tandem office. In addition, they develop various forms of transport, Centrex and PBX rates.

As an initial matter, we have already reviewed several inputs and assumptions that are common to all the models presented to the Board for review, including cost of capital, common costs, depreciation, etc. Since issues relating to these inputs have already been decided by the Board, it is unnecessary to do so here again. Any revisions to the common inputs are to be applied to all models in this proceeding. The Board now must decide on the appropriate inputs and assumptions specific to these models, including the level of discounts, busy hour utilization, as well as how to properly cost out vertical features. As stated above, the appropriate discount selection is the single most important cost driver in the models.

## **Positions of the Parties**

### **1. Modeling Approaches**

#### **Verizon NJ Position**

According to Verizon NJ, its end office switching costs were developed based upon the Switching Cost Information System ("SCIS") model, a Telcordia engineering model, that Verizon NJ stated has been recognized as an industry standard for estimating the cost of switching systems, and the Common Channel Switching Cost Information System ("CCSCIS") model. Verizon NJ stated that these models calculate the cost of originating and terminating calls in the end-office and tandem office based on the switching investment necessary per call and per minute of use. (VNJb at 108-109, referring to VNJ-26, Vol. 19 (Exh. G-1), Sec. 1).

According to Verizon NJ, the SCIS model determines the forward-looking investment necessary for each wire center in Verizon NJ's service territory based upon the actual usage characteristics of each wire center. The forward-looking investment for all of Verizon NJ's wire centers is then used to develop the average per minute of use switching cost. (*Id.* at 109, referring to VNJ-26, Vol. 19 (Exh. G-1), Sec. 4).

Verizon NJ asserted that its detailed cost study assumptions regarding calling patterns and usage requirements for each wire center in New Jersey are in stark contrast to the HAI methodology. As explained by Verizon NJ, the HAI Model simply assumes that the unique characteristics of each switch in New Jersey can be disregarded and that switching investment for New Jersey can be determined based on a per line cost assumption. (*Ibid.*, referring to VNJ-6 at 65-67).

In addition, Verizon NJ argued that the HAI Model methodology for estimating switching costs suffers from additional economic engineering assumptions. Based upon the Company's analysis, it believes that the model assumes switch sizes are infinitely variable, so that a switch of any line size can be installed to match exactly the line count in a given wire center. (Id. at 110, referring to AT&T-47, RAM-2 at 54 (Mercer)). Verizon NJ maintained that the HAI Model's approach understates costs by ignoring the fact that switches simply are not made this way, i.e., there is a minimum size switch that can be purchased, and switch components come in modules of specific sizes, not in infinite variety. (Id., at 110).

Verizon NJ averred that the HAI Model also assumes a standard line concentration for every switch, thus incorrectly sizing switches to meet actual demand. (Ibid., referring to AT&T-47, RAM-2 at 53-56 (Mercer)). Verizon NJ also contended that the HAI Model failed to account for the increased switching costs in areas with higher holding times (requiring lower line concentrations), and failed to recognize that longer holding times will be required as a result of increased Internet use. Further, Verizon NJ stated that the HAI Model does not account in any meaningful way for software costs, vertical services, or tandem functionality.

In response to criticisms of the CLECs and the Advocate that alleged that the fundamental difference between the HAI Model and Verizon NJ's cost model approach was the use of vendor discounts for switching equipment, Verizon NJ pointed out that there are other differences between the parties' approaches that contribute to the dramatic disparity between the Verizon NJ switch cost results and the CLEC estimates. For example, the Company asserted that the HAI Model disregards basic engineering considerations such as the impact of calling patterns, traffic and usage. (VNJrb at 99-100).

As for AT&T and WorldCom's re-runs of Verizon NJ's cost models, the Company argued that they understated costs by using incorrect switch discounts as well as other critical inputs in the SCIS model. According to Verizon NJ, AT&T, without any justification, eliminated all hardware and software costs associated with the provision of vertical services. (VNJb at 110-111). Similarly, the Company argued that WorldCom economist Ankum, a non-engineer alleged by Verizon NJ to be not qualified to render opinions on technical issues, changed utilization and capacity assumptions without support. (Id. at 119-20). These changes, according to the Company, in addition to the overstatement of switch discounts, all contribute to the significant

difference between the Verizon NJ cost model results and AT&T's and WorldCom's recommended rates. (VNJb at 100).

### **Advocate Position**

The Advocate explained that in calculating switching costs, Verizon NJ asserted that its costs were based on a forward-looking mix of technologies using 100% digital switching. (Ab at 69). However, the Advocate noted that Verizon NJ based its vendor discount on the assumption that the Company will only upgrade, rather than replace, existing switches in the future. (Ibid.)

According to the Advocate, AT&T described its model as a bottom-up engineering and economic model used to construct proper rates based on the costs that an efficient firm would incur to provide unbundled network elements. In contrast to the Verizon NJ model, the Advocate noted that the HAI model used the new or replacement discount assumption.

### **AT&T Position**

According to AT&T, the fundamental difference between the HAI Model and Verizon NJ's cost model involved the treatment of discounts on switching equipment. AT&T explained that discounts for new switching equipment are normally much greater than for subsequent add-on equipment. (AT&Tb at 146; AT&T-58 (Baranowski Rebuttal) at 15-16; VNJ-25 (Albert Rebuttal) at ¶ 16; WC-1 (Ankum Rebuttal) at 51-52). AT&T argued that because switch discounts may be the most important determinant of switch costs (since the discounts directly determine switch investments and thus switching costs), it is critical that they be accurately reflected in any calculation of TELRIC. (AT&Tb at 146; WC-1 (Ankum Rebuttal) at 52). Based upon its analysis, AT&T argued that the Verizon NJ cost model computes its investment cost based on the assumption that Verizon NJ would repurchase its entire existing inventory of switching equipment through "add-on" investment, since Verizon NJ's existing switches are all digital. (AT&Tb at 146-147).

AT&T pointed out that despite VNJ's October 12, 2001 rebuttal submission updating its cost study to reflect revised switch vendor discounts, VNJ's cost model continues to rely on growth discounts. According to AT&T, the switching costs in the revised cost study were lower than those presented in the original study to correct what Verizon NJ described as changes in the switch vendor discounts, and "in recognition that certain components of the switches are priced at a single distinct discount level rather than at separate 'growth' or 'replacement' discounts."

(AT&Tb at 147; VNJ-24 at 17-18). Nevertheless, according to AT&T, Verizon NJ stated that “the revised cost study continues to reflect the fact that all forward looking line equipment switch costs will be incurred at the growth discount level,” because “Verizon NJ’s switch make-up is already 100% digital and Verizon NJ will not incur future switching costs at the replacement level for line equipment.” (Ibid.).

AT&T also pointed out that more than two months later – and less than two weeks before Ms. Prosini and Mr. Albert were scheduled to appear for cross-examination – Ms. Prosini revised her rebuttal testimony to state that Verizon NJ had changed the original switch vendor discounts because certain components of switching equipment under its contract with Lucent were offered at different discount levels rather than at the “growth” discount rate assumed in the prior study. (AT&Tb at 147-148; VNJ-24 at 17; 9T2133-2134). According to AT&T, Verizon NJ has now asserted that, rather than a “growth discount,” it used an “effective discount” based upon the average of nine months of switch equipment purchases at current discount levels. (VNJ-24 at 17-18; 9T2129-2130). AT&T argued that the distinction between the “effective discount” and “growth discount” is one without a difference, since Verizon NJ acknowledged that the “effective discount” is based on the average of the purchases of switch components that it purchased during the nine-month period when it was purchasing no new switches. (AT&Tb at 148; 9T2136-2140).

According to AT&T, Verizon NJ did not discuss the discount issue in its description of the comparison of the modeling approaches, but rather defended the particular engineering model that it used, and attacked the HAI Model for reasons other than its treatment of switch discounts. (AT&Trb at 80-81). AT&T argued that none of VNJ’s arguments withstands scrutiny. AT&T refuted Verizon NJ’s assertion that its switch costs were based on the “industry standard” SCIS model. AT&T argued that, like any other cost model, the SCIS model reliably computes costs only if given proper inputs and reflects the applicable ratemaking standards. (Id. at 81). AT&T argued that neither appropriate inputs nor appropriate ratemaking standards were used, since the VNJ study used “growth” discounts that are contrary to TELRIC principles. (Ibid.).

AT&T also maintained that Verizon NJ’s attacks on the HAI model switching cost assumptions are equally baseless. According to AT&T, the methodology of the HAI Model, which Verizon NJ disparages as “simplistic” (VNJb at 109), is consistent with the methodology used by the FCC in

estimating switching costs. In support of this contention, AT&T referred to several references in AT&T-47, the Direct Testimony of AT&T witness Robert A. Mercer: (1) that the HAI Model uses inputs derived from the FCC's review of switching cost data to calculate investment in local switching systems (AT&T-47 at 17); (2) that the HAI Model incorporates the investment values for Bell Operating Company and independent company switches adopted by the FCC in its Universal Service Fund (USF) Inputs Order<sup>23</sup> (AT&T-47 at RAM-2, §2.5); and (3) the value of the constant used to determine end office amalgamated switching investment is the weighted average of FCC remote and non-remote constant terms described by the FCC in its USF Inputs Order. (AT&T-47 at RAM-3, §4.19).

In response to Verizon NJ's assertion that the HAI Model assumed that switch cost sizes are infinitely variable (VNJb. at 110), AT&T asserted that Verizon NJ did not understand how the HAI Model actually operates. (AT&Trb at 82). According to AT&T, the HAI Model assigned a large fixed cost to switches, irrespective of the number of lines served, and this large fixed cost more than accounts for the fact that switch components come in modules of specific sizes. (Ibid.; AT&T-47 at RAM-2, § 6.5.3.1 & Appendix B at 42-43 (B89 and B90)). According to AT&T, the HAI Model recognized that switches come in specific size ranges, allowing the user to specify up to four specific ranges of switch size, and to specify different constants for each switch type in each size range. (AT&Trb at 82).

### **WorldCom Position**

WorldCom asserted that determining rates for local switching is a two step process, the first step being an examination of demand, utilization, and vendor prices of the actual switches, and next, the design of a rate to recover those costs. (WCb at 39). WorldCom explained that Verizon NJ used the "SCIS" model to combine the steps and develop a two part rate design for local switching based upon a monthly port charge and a per minute of use ("MOU") charge. (Ibid.).

According to WorldCom, Verizon NJ's switch costs were inflated by Verizon NJ's failure to use proper, forward-looking vendor prices (as reflected by discounts offered by switch vendors) and by its use of a low utilization factor. (Ibid.). WorldCom contended that the costs are further

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<sup>23</sup> Tenth Report and Order, I/M/O Federal-State Joint Board on Universal Service, et al., CC Docket Nos. 96-45 and 97-160 (November 2, 1999) (hereinafter, "USF Inputs Order").

inflated by the proposed Verizon NJ rate design, which results in over-recovery of the inflated costs. (Id. at 39-40). To correct the problem, WorldCom recommended that rates for local switching reflect forward-looking vendor prices and utilization, and that Verizon NJ's proposed rate design be corrected by the implementation of a flat rated design for local switching, in addition to the traditional rate design. (Id. at 40).

### **Board Discussion - Modeling Approaches**

In determining the selection of an appropriate forward-looking switching cost model, the Board undertook a rigorous analysis of both the Verizon NJ and AT&T models, as well as the positions of the parties. Both Verizon NJ's SCIS and CCSCIS models and AT&T's HAI-developed model claim to estimate the forward-looking costs associated with switching and related elements.

The CLECs generally argued that the main differences in the models relate to their inputs and assumptions, whereas Verizon NJ argued that its basic construct relied on detailed cost assumptions, calling patterns and usage requirements on a wire center basis. Verizon NJ criticized the HAI Model for assuming that New Jersey switching costs could be determined on per line cost assumptions. AT&T countered that Verizon NJ's criticisms were based solely on Verizon NJ's misunderstanding of how the HAI Model works. AT&T, however, noted that the SCIS Model, like any other cost model, will reliably compute costs if proper inputs are used. (AT&Trb at 81). While much discussion has occurred on switching cost models' actual inputs and assumptions, we will reserve that discussion for the appropriate sections that follow. We note that several parties have re-run the Verizon NJ model with revised inputs. We will be examining those re-runs through their revised inputs and not treat them as separate model submissions.

Based upon the record evidence, the Board **ADOPTS** the Verizon NJ series of models to develop switching costs. Based on our review of the record, we are convinced that the Verizon NJ model provides the appropriate foundation to determine forward-looking switching rates, because it more accurately portrays the network for which costs are being developed by utilizing detailed data on calling patterns and usage on a wire center level. However, we heed the advice

of the parties that urge the Board to examine certain critical inputs to ensure that the resultant output produces proper and lawful, forward-looking rates.

## **2. Discount Weighting**

### **Verizon NJ Position**

In its testimony and briefs, Verizon NJ explained that its cost study was based on its forward-looking cost estimates assuming 100% digital technology supplied by the three vendors that currently supply switching equipment to Verizon NJ. (VNJb at 111; VNJ-26, Vol. 19 (Exh. G-1) at §5). The Company argued that digital technology has completely displaced analog switches as a forward-looking alternative, and points to the fact there are no more analog switches in Verizon NJ's network in New Jersey. In calculating switching costs, the Company utilized its current mix of digital switches and its anticipated plans for the continued purchase of switch equipment based upon the current switch mix. (Ibid.).

According to Verizon NJ, in order to understand the appropriate discount to be utilized in a forward-looking cost study, it is necessary to have a general understanding of how switching equipment is purchased. Verizon NJ explained that, traditionally, switch vendors have set lower prices for purchases of new digital switches through higher discounts off of list price, as compared with growth additions to existing switches. (VNJb at 110-111; VNJ-25 at 7-8).

Verizon NJ argued that the use of "growth discounts" is more consistent with TELRIC principles than the use of "replacement switch" discounts (VNJb at 111; VNJ-25 at 7-8), because "growth discounts" best reflect the actual prices that Verizon NJ will pay for the latest available digital switching technology in the future. (VNJb at 112).

According to Verizon NJ, it purchases various switching equipment components at different discount levels provided by vendors. For the Lucent equipment in the cost study, Verizon NJ stated that it performed an "analysis of the actual discounts that it has realized from Lucent in order to determine an overall actual "effective discount."<sup>24</sup> (Ibid.; VNJ-24 at 14). VNJ reasoned that the use of actual switch equipment purchases was appropriate to develop the effective switch discount because they refer to the same switch equipment the Company expects to be purchased in the future. (VNJb at 112). For Nortel, and Siemens equipment Verizon NJ assumed the use of the contract growth discount. (Id. 112-113).

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<sup>24</sup> VNJ noted that 75% of the switch equipment in its cost model consists of Lucent equipment. (VNJb at 112).

According to Verizon NJ, the CLECs contend that, rather than utilize an effective discount or actual discounts that Verizon NJ will realize on a going forward basis, its cost should be based on the contract replacement discounts. (Id. at 113). The Company argued that, based upon a review of its vendor contracts, the replacement discounts are only available when entire new switches are purchased to replace a 1AESS switch technology. (Ibid., referring to RPA 36 (Verizon NJ Supplemental Response to DRA-1)). The Company argued that because there are no 1AESS switches remaining in New Jersey, on a forward-looking basis, Verizon NJ cannot purchase equipment pursuant to this contract replacement discount. (Ibid., referring to VNJ-24 at 17-18).

Citing to ¶685 of the Local Competition Order, VNJ argued that TELRIC-based rates must capture the incremental costs that incumbents actually expect to incur in making network elements available to new entrants. Verizon NJ accordingly indicated that the appropriate material price to use in a TELRIC cost study is the material price that Verizon NJ will actually pay, incrementally, in the foreseeable future, under in-place vendor contracts. (Id. at 113). VNJ stated that the discount it will receive in the future when purchasing new switching equipment is the “growth” discount. (VNJb at 114). Verizon NJ stated that it would be foolish for it to purchase entirely new digital switches in place of the modern digital switches already in place. (Ibid.).

Verizon NJ urged the Board to reject AT&T witness Baranowski’s incorrect assumption that 79.4% of VNJ’s switching costs will be based upon “replacement” discounts and the remaining 20.6% based on “growth” discounts. (Id. at 115). According to the Company, this approach is just as incorrect as the HAI Model assumption of a 100% replacement, because Verizon NJ will not incur any switch costs in New Jersey based upon the contract replacement discounts in the foreseeable future. (Id. at 115-116).

In further response to the CLECs’ and Advocate’s arguments that the use of growth (or effective) discounts is inconsistent with the “long-run nature” of TELRIC and the total “network replacement” premise underlying the TELRIC analysis (See AT&Tb at 155-157; Ab at 68-78; and WCb at 40-41), Verizon NJ reiterated its belief that the actual way in which networks are “totally replaced” in the “long run” is by incremental additions to and replacement of existing

technology, which, in the long run, creates a totally new network. (VNJb at 13-14; VNJrb at 101-102; VNJ-4 at 8).

In response to allegations made by the Advocate and others that Verizon did not use the “most current vendor contract” discounts in calculating its discounts, Verizon NJ explained that in October 2000, when Verizon NJ submitted its Revised Cost Study, the study was based on the discounts for the then existing contracts. Thereafter, according to Verizon NJ, in January 2001, in response to Commissioner Butler’s ruling compelling Verizon NJ to provide requests for proposals and switch contract documents from other Verizon jurisdictions, Verizon NJ only then learned that the contract with a supplier had been amended in December of 2000, and it then updated its prior discovery responses. (VNJrb at 105).

### **Advocate Position**

According to the Advocate, Verizon NJ overstated its switching costs by using incorrect vendor discounts based on assumptions that are counter to the FCC’s TELRIC pricing methodology. (Ab at 69; RPA-18 at 40 Lundquist Rebuttal). The Advocate explained that Verizon NJ uniformly applied the smaller growth discount despite the fact that vendors will offer much greater discounts for the purchase of new switches. (*Ibid.*).

The Advocate argued that the discount applied to Verizon NJ’s switch costs should reflect the forward-looking discount that Verizon NJ would receive under TELRIC assumptions, a key costing principle of which is that costs must be developed on the basis of the least-cost, most efficient technology available today. (Ab at 70.; referring to RPA-18 at 40). In support, the Advocate referred to ¶685 of the Local Competition Order, in which the FCC concluded the following:

[t]he forward-looking pricing methodology for interconnection and unbundled network elements should be based on costs that assume that wire centers will be placed at the incumbent LEC’s current wire center locations, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements.

Based upon its understanding of the FCC’s rules, the Advocate asserted that the replacement discount properly reflects the efficiencies that Verizon NJ should recognize in its switching purchases. (*Ibid.*; referring to RPA-18 at 4, 39). In addition, the Advocate argued that the use of the replacement discount is also consistent with the FCC’s USF Inputs Order. According to

the Advocate, the FCC supported the use of new switch prices, while rejecting the ILECs' arguments for costing switches based on upgrades, when it concluded that:

[t]he model platform we adopted is intended to use the most cost-effective, forward-looking technology available at a particular period in time. The installation costs of switches estimated above reflect the most cost-effective forward-looking technology for meeting industry performance requirements. Switches, augmented by upgrades, may provide carriers the ability to provide supported services, but do so at greater costs. Therefore, such augmented switches do not constitute cost-effective forward-looking technology.

[Ab at 70-71, quoting from the USF Inputs Order at ¶ 317].

In contrast to Verizon NJ's position that "growth discounts" are appropriate, the Advocate argued that in order to follow the economic principles of TELRIC, switching investments must be calculated "from the ground up" without reference to Verizon NJ's existing switching structure. (Ab at 71, referring to RPA-18 at 40).

In addition, the Advocate pointed out that Verizon NJ's switch costing approach is further flawed by its admission that it continues to use switches that were bought with new equipment discounts and will do so for the next few years. (Ab at 73). Referring to AT&T Witness Baranowski Direct Testimony at 16, the Advocate asserted that since Verizon NJ bought its existing base-load switches at the deep discounts offered for new equipment purchases, switching costs incorporated in its model should use the same discount that the incumbent enjoyed when purchasing these new switches. (*Ibid.*).

The Advocate illustrated the anticipated effect of using Verizon NJ's inflated growth discounts on the price of switching, by using the new/replacement discount levels originally presented by Verizon NJ. According to the Advocate, the outcome resulted in dramatic savings in the cost of switching. (*Id.* at 74, referring to RPA-18 at 43). The Advocate further argued that the cost savings calculated on the basis of the new/replacement switch discounts currently available to Verizon NJ are conservative, because the discounts are not as large as the discounts VNJ would be able to command in the future. (*Ibid.*, referring to RPA-18 at 42).

The Advocate noted that as a result of Verizon NJ's restatement of switching discounts on December 21, 2000, it continued to seek additional information from Verizon NJ related directly to the level of switch discounts. (Ab at 74). Following a motion to compel Verizon NJ to

disclose its most current vendor contracts, the result of which was that Verizon NJ produced these documents on April 12, 2001, the Advocate propounded a request to Verizon NJ to determine revised new and growth discount levels based on the various specific discounts embodied in the new contracts. (See RPA-36 (Verizon NJ's Responses to DRA-1 through Supplemental Requests DRA-4)).

The Advocate further noted that, in response to its requests of May 3, 2001 and May 16, 2001 to Verizon NJ for additional information, and to re-run its cost model to determine the effect of the new contracts and discounts on the price of switching, Verizon NJ did not produce the information that the Advocate requested. (Ab at 74-77). As a result, the Advocate argued that Verizon NJ's "refusal to take into account the best available information that may be used in its cost model amounts to a failure of proof." (Ab at 77). The Advocate also noted that the mix of switch types assumed in Verizon NJ's cost study "represents the embedded mix of switches currently in place for VNJ" (RPA-18 at 36, n. 48), leading the Advocate to conclude that Verizon NJ has not demonstrated that its embedded mix of switching types represents the least cost, forward-looking mix that the TELRIC methodology requires. (Id. at 77-78).

### **AT&T Position**

AT&T assailed Verizon NJ's cost study for assuming that an efficient carrier would repurchase its entire inventory of switches at the outset of the cost study period, but in the long run would obtain only the discounts available for add-on purchases. (AT&Tb at 149). According to AT&T, whether discounts are characterized as "add-on" or "effective," Verizon NJ's study assumed that an efficient new entrant would not replace its switches in the long run, but would simply "add on" capacity or components, resulting in higher costs than those that an efficient new entrant would incur over the long run, and higher than Verizon NJ had actually incurred in the past. (Id. at 150, referring to AT&T-58 (Baranowski Rebuttal) at 16; WC-1 (Ankum Rebuttal) at 53; RPA-18 (Lundquist Rebuttal) at 40).

In support of its position, AT&T also pointed to other state commissions in the Verizon region that it asserted have rejected Verizon's position. (AT&Tb at 150).<sup>25</sup> According to AT&T, Verizon NJ's

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<sup>25</sup> AT&T cited to the following: Order, Case No. PUC970005, at 11 (Va. SCC, May 22, 1998) (adopting 85%/15% weighted average of new and add-on discounts); Order, Case No. 8731, at 46-49 (Md. PSC, Sept. 22, 1997); Findings and Recommendations of Hearing Examiners, PSC Docket No. 96-324, ¶¶ 135-37 (Del. PSC, April 7, 1997), aff'd, Order No. 4542, ¶ 33 (Del. PSC, July 8, 1997) (adopting 90%/10% weighted average), aff'd sub nom. Bell Atlantic-Delaware, Inc. v. McMahon, 80 F.Supp.2d 218, 236-239 (D. Del. 2000). AT&T also referenced Mercer Reb. Testimony at 33 (noting that FCC and other tribunals have held that the relevant unit cost in TELRIC models should reflect the discounted prices for new equipment, not the higher prices for add-on or growth capacity).

approach constitutes a complete misapplication of TELRIC principles. AT&T argued that TELRIC measures the switching cost of an efficient, low-cost supplier. Citing to the FCC's Local Competition Order, AT&T stated that the rates for network elements should be:

based on costs that assume that wire centers will be in place at the incumbent LEC's current wire center locations, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements.

[Local Competition Order, at ¶685 (emphasis added by AT&T).]<sup>26</sup>

Thus, according to AT&T, "the current state of Bell's network is irrelevant for purpose of a long-run cost analysis." ((AT&Tb at 150, quoting from Bell Atlantic-Delaware, Inc. v. McMahon, supra, 80 F. Supp. 2d at 237.)

Based upon its analysis, AT&T argued that the most favorable discounts from Verizon NJ's switching contracts should be used to calculate switch discounts because they represent what an efficient new entrant could expect to pay. (AT&Tb at 151).

In addition, AT&T rejected Verizon NJ's notion that its methodology is correct just because the possibility exists that a new entrant might ultimately buy add-on equipment. AT&T argued that simply because a carrier may purchase add-on equipment is no justification to rely on a switch mix that is exclusively weighted with add-on equipment. (AT&Tb at 155).

AT&T also argued that Verizon NJ has applied its standard inconsistently. For example, according to AT&T, Verizon NJ is claiming that because the short-run incremental costs of its add-on switch purchases are likely to be high, the long-run incremental costs of its base load switching capacity are also high. (Id. at 156). However, AT&T argued that, if the relevant standard is short-run costs (as Verizon NJ suggested by its use of growth discounts), the short-run incremental costs of Verizon NJ's base load switching capacity are likely to be extremely low, because Verizon NJ has already paid for its switches, and the switches have substantial spare capacity. (Ibid.).

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<sup>26</sup> AT&T also referenced 47 C.F.R. § 51.505(b)(1) ("The total element long-run incremental cost of an element should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing locations of the incumbent LEC's wire centers.").

Based upon its interpretation of the appropriate principles, AT&T restated Verizon NJ's cost study, using the Verizon NJ Model, assuming that the switch purchases of a new entrant operating in a long-run environment will qualify for the deeper discounts. (*Id.* at 148).

According to AT&T, the efficient new entrant would acquire all new switches today to handle existing demand and make some "add-on" investment in the future as demand increases. (*Ibid.*, referring to AT&T-58 (Baranowski Rebuttal) at 17-18; AT&T-101 (Baranowski Supplemental Rebuttal) at 3-4).

Thus, according to AT&T, even using the most optimistic assumptions regarding average switch life, under AT&T's methodology the switch discount should be weighted at least 79.4% for new switch investment, and no more than 20.6% for add-on investment. (*Id.*, at 148-149; AT&T-58 (Baranowski Rebuttal) at 18). AT&T contended that, when the switching costs set forth in VNJ's cost study are restated by AT&T to (1) reflect this weighting, (2) reflect the most favorable discounts in Verizon NJ's contracts with Lucent and Nortel, and (3) correct other errors in the VNJ cost study (such as cost of capital, and Verizon NJ's addition of the costs of vertical features to switch usage costs), the restated switching costs are less than one-third of those in the Verizon NJ cost study. (*Id.* at 149).

### **WorldCom Position**

Like the Advocate and AT&T, WorldCom argued that Verizon NJ improperly relied on growth discounts rather than replacement discounts. (WCb at 40). In support of its position, WorldCom, like AT&T, also cited to the FCC's USF Inputs Order, in which the FCC determined that initial switch purchases should be used to determine least-cost, forward-looking switching costs. (*Id.* at 43; USF Inputs Order, *supra*, at ¶317). WorldCom also noted that federal district court had already rejected Verizon's attempt to use growth discounts. (*Id.* at 42; Bell Atlantic-Delaware, Inc v. McMahon, *supra*, 80 F. Supp. 2d at 238-239).

WorldCom argued that Verizon NJ's switching costs are fundamentally defective because they do not assume the purchase of new digital switches at prices that include the more substantial discounts associated with the purchase of new switches. According to WorldCom, application of initial switch discounts, instead of growth discounts, not only makes intuitive sense; it also has been embraced by a federal district court interpreting TELRIC, and by the FCC. According to WorldCom, in Bell-Atlantic Delaware, *supra*, the court specifically rejected Verizon's attempt

to model its switching costs based on the growth discounts. WorldCom commented that the court held:

[i]n the long run (a period of time that varies according to the technology at issue), an efficient and rational competitor would replace all of its existing switches with the most current technology and receive the bulk-rate discounts. Viewed in this light, Bell's proposed switch costs, which it premised upon the smaller add-on discounts for which it will qualify "in the coming years," looks only to the short-run. The Hearing Examiners correctly concluded that Bell's cost analysis was "deficient in that it does not reflect a long-run approach, but rather a series of short-run cost estimates."

[Bell Atlantic-Delaware, *supra*, 80 F. Supp. 2d at 238-239].

### **Board Discussion - Discounts Weighting**

The Board agrees with the parties that the issue of selecting the appropriate switch discount is the single most crucial decision that we will need to render regarding switching rates. Verizon NJ argued that the use of 100% growth discounts with zero recognition for replacement switches is appropriate and consistent with the FCC's TELRIC requirements. In support of its position, the Company argued that it has replaced all of its older analog switches with modern digital switches and any added future demand will be satisfied through add-on capacity. The Company maintained that the use of growth discounts is correct because it is consistent with the manner in which the Company will actually incur future switch costs.

The CLECs and the Advocate, on the other hand, asserted that Verizon NJ's methodology has the effect of dramatically inflating the cost of switching by essentially assuming that all switching capacity is costed out using the lower growth discount, even though the Verizon NJ network consists solely of digital switches it purchased at the higher replacement discount, when the analog switches were replaced. The CLECs and the Advocate call for the Board to reject Verizon NJ's position and require that the Verizon NJ's study be recast to include a network design that includes the replacement discounts, as required by proper TELRIC methodology. As an alternative, AT&T proposed that a forward-looking mix of replacement and growth discounts be used to account for the fact that a proper forward-looking TELRIC study may recognize that growth will occur.

The resolution of this issue requires the appropriate application of TELRIC principles. In this regard, the Board views ¶1685 of the FCC's Local Competition Order as controlling. The FCC,

in order to encourage competition, rejected the use of embedded costs in the pricing of network elements, reasoning that “new entrants’ investment decisions would be distorted if the price of unbundled elements were based on embedded costs.” (Local Competition Order at ¶620). Instead, the FCC adopted a pricing methodology based on forward-looking, economic costs because it “best replicates to the extent possible, the conditions of a competitive market.” (Id. at ¶679). To the question of whether forward-looking costs should be computed based on an ILEC’s existing network infrastructures, the FCC adopted an approach that recognized “existing network design, while basing prices on efficient, new technology that is compatible with the existing infrastructure.” (Id. at ¶683-685). The FCC reasoned that this approach combining forward-looking cost and existing network design “most closely represents the incremental costs that incumbents actually incur in making their network elements available to new entrants.” (Id. at ¶685). Accordingly, the FCC determined that its forward-looking costing methodology must be based on a “reconstructed local network [that] will employ the most efficient technology for reasonably foreseeable capacity requirements.” (Ibid.).

The FCC also determined that the term “long run” refers to “a period long enough so that all of a firm’s costs become variable or avoidable,” a period of time “so long that all of the firm’s present contracts will have run out, its present plant and equipment will have been worn out or rendered obsolete and will therefore need replacement.” (Id. at ¶677, and fn. 1682). We note that, in the Bell Atlantic-Delaware proceeding referred to above, Verizon NJ’s witness, Dr. William Taylor, who also testified in this proceeding, admitted that the Local Competition Order

says rip every switch out. All of them ... Every switch in the network, rip them out. Leave the ... wire center locations where they [sic] are. And build the network that you would build today to serve the demand.

[Bell Atlantic-Delaware, supra, 80 F. Supp. 2d at 238].

The long-run forward-looking cost of Verizon NJ’s switches must, therefore, reflect an investment predominately in new switches, along with their associated vendor discounts. By giving zero recognition to replacement switch discounts, Verizon NJ violates the TELRIC methodology, and seriously overstates switching costs. In addition, Verizon NJ’s position is self-contradictory, because it ignores the fact that all of its switches have been replaced with modern digital switches, purchased at the deeper new/replacement switch discounts. Moreover, were we to adopt Verizon NJ’s position, we would be complicit in the Company’s

attempts to extract a cost for its future switching that is arguably higher than what the cost would be if the Company's existing switches were used as a surrogate for forward-looking costs.

We also believe that, in this instance, a proper TELRIC costing methodology should include recognition of both replacement and growth purchases, because a new entrant will conceivably make some add-on switch investments in the future as demand increases. (AT&Tb at 148). AT&T presented a reasoned analysis that resulted in a weighting of 79.4% replacement and 20.6% growth, assuming 3% annual line growth and a projected 17-year life to determine a forward-looking switch mix. (*Ibid.*; AT&T-58 at 18). Accordingly, the Board **HEREBY ADOPTS** AT&T's replacement/growth mix as the appropriate long-run forward-looking input to the cost of Verizon NJ's switches.

With regard to the discounts themselves, we believe that a reasonable method would have been to calculate the effective discount for switch purchases of Verizon NJ's replacement digital switches that supplanted its older analog switches, and then estimate the anticipated growth discount based upon contract data using New Jersey specific data. However, such data was never made available to this Board for consideration. Therefore, in its place, we **ADOPT** the switch discounts provided in response to Commissioner Butler's May 7, 2001 ruling in this matter as a surrogate for the appropriate discounts. We firmly believe that they provide a reasonable forward-looking basis that is compliant with the FCC's TELRIC mandate.

### **3. Busy Hour**

#### **Verizon NJ Position**

Verizon NJ argued that its cost study properly recognizes that switches must be designed in order to meet the capacity requirements of the busiest hour of each day. (VNJb at 116, referring to VNJ-26, Vol.19 (Exh. G-1), Sec. 44). According to the Company, the busy hour determination is relevant to both sizing the switch and determining the manner in which costs should be spread among users. (*Ibid.*; VNJ-26, Vol. 19 (Exh. G-1)). The Verizon NJ cost study develops a "busy hour" usage to annual usage ratio, which is used as a basis to spread the investment over usage. Verizon NJ's cost study assumes 251 average days per year, which excludes weekends and holidays, days where peak periods generally do not occur. (*Ibid.*).

In response to allegations made by WorldCom witness Ankum regarding Verizon NJ's use of 251 days, Verizon NJ argued that Mr. Ankum's own testimony recognizes that switches need to

be sized to meet peak demand, and that he has acknowledged, in a prior Texas proceeding in which he sponsored a cost study, that he has excluded weekends and holidays for purpose of performing busy hour calculations. (Ibid., referring to 16T3393-97, and VNJ-79 at 32).

Verizon NJ also noted that both the HAI Model and the Verizon NJ model utilize 251 days as the busy hour day utilization assumption. (VNJrb at 107). The Company argued that none of the parties, with the exception of WorldCom, takes exception with the number of days proposed by Verizon NJ. (Ibid.).

### **WorldCom Position**

According to WorldCom, in setting switch rates, Verizon NJ determines the rate per MOU by dividing the traffic sensitive costs by a number of minutes of use. (WCb at 45). WorldCom noted that the fewer minutes of use in the denominator, the higher the reported rate (all other things being equal). (Ibid.). Because, in its model, Verizon NJ determined the number of MOUs to use in rate setting by calculating the number of average business days the switch will be operating, WorldCom argued that, based upon Verizon's methodology, the number of average business days determines the number of MOUs over which switch and switch related investments can be recovered. (Ibid.). WorldCom reasoned that the more days utilized in the rate calculation, the larger the number of MOUs there will be over which to recover investments, and in turn, the lower the per-MOU costs will be. (Ibid.).

WorldCom explained that Verizon NJ calculates the appropriate number of MOUs in a year, by first calculating the number of MOUs in a business day and then the number of business equivalent days per year. According to WorldCom, VNJ's theory is that not all days in the week have the same amount of traffic, i.e., traffic on weekends is not as great as traffic on weekdays. (Ibid.). However, WorldCom asserted that traffic on weekends must be taken into account in the calculation. (Ibid.). WorldCom argued that, by proposing that the Board utilize only 251 average business days to determine the number of MOUs over which switch and switch related investments be recovered, Verizon NJ's approach implies that there is no calling at all during the weekend. (Id. at 46). WorldCom concluded that Verizon NJ's failure to account for the minutes of use in rate setting will result in an over recovery of switching costs. As an alternative, WorldCom recommended that the Board either adopt a flat rate (discussed below) switch rate design or, to the extent a traditional rate design is offered, count weekend days as half of a business day, resulting in 308 "busy days." (Ibid.).

In response to the Verizon NJ allegation that its expert witness used a number of “busy hour” business days in another jurisdiction similar to the numbers Verizon NJ utilizes here, WorldCom maintained that Mr. Ankum’s Texas study was unrelated to the issue at hand here, because the study dealt with Internet related traffic and not voice communications. According to WorldCom, weekends were excluded from Mr. Ankum’s because Internet traffic falls off dramatically on weekends. (WCrb at 25, n. 66).

#### **Board Discussion - Busy Hour**

The issue of the selection of the number of busy days per year to be used in the switch rate design, was only addressed by Verizon NJ and WorldCom. The essence of the arguments can be reduced to whether weekend traffic should be included in switch cost calculations, and, if included, to what extent. Even though AT&T was silent on the issue, Verizon NJ stated that, in reviewing the HAI Model, AT&T too excluded weekends in its calculation.

Based upon the evidence in this case, we agree with Verizon NJ that measuring peak day traffic is an appropriate method to evaluate switch costs. In particular, we are persuaded by the Company’s argument that the busy hour determination is relevant to both sizing the switch and determining the manner in which costs should be spread among users. It is our belief that these two parameters are inextricably linked. While we are mindful of WorldCom’s concerns, and agree that usage rates would be lower if more days were included in the calculation, the use of an additional day in the calculation, in this case, a weekend day when usage is traditionally lower, also effectively reduces average switch capacity. In addition, we are unconvinced that the circumstances surrounding Mr. Ankum’s earlier Texas testimony are sufficiently different from the circumstances here in relation to switch usage patterns, and thus find persuasive Verizon NJ’s critique of WorldCom’s use of 308 days in this proceeding. Therefore, the Board **REJECTS** WorldCom’s proposal and **ADOPTS** the Verizon NJ position of 251 days as appropriate.

#### **4. Vertical Features**

##### **Verizon NJ Position**

The switching study submitted by Verizon NJ identifies the per minute cost of end office switching, including the costs of access to vertical services. According to Verizon NJ, Section 3.2 of the Vertical Services cost study, a component of the end office switching study, set forth

in detail the actual investment necessary to provide vertical service and activation assumptions. (VNJb at 117).

Certain parties criticized Verizon NJ's inclusion of vertical features as part of the usage sensitive cost of switching. In response to such allegations, Verizon NJ criticized AT&T witness Baranowski for his re-run of Verizon NJ's switching cost study that eliminated all the investment and costs associated with the provision of vertical services. (Id. at 117-119). According to Verizon NJ, Mr. Baranowski incorrectly concluded in his testimony that vertical feature costs should not be included in the usage sensitive charges because they are already included in the port costs. (Id. at 117, referring to AT&T-58 at 18).

The Company noted that WorldCom witness Ankum also reran the SCIS model with revised assumptions, but "reran SCIS [only] for a selection of offices" served by Lucent equipment. (VNJb at 119, referring to WC-1 at 60). According to Verizon NJ, Mr. Ankum ignored that the fact that over 25% of Verizon NJ's switch investment is provided by vendors other than Lucent. The Company also argued that Mr. Ankum's limited re-run of the SCIS model was based upon erroneous and unsubstantiated adjustments. According to Verizon NJ, Mr. Ankum inappropriately used a "replacement" discount rather than the growth (or effective growth) discount. Verizon NJ also contended that, without justification or analysis, he concluded that the processor utilization percentage in the SCIS model should be increased to 75%. VNJ further claimed that similarly, without any supporting analysis, he concluded that the switch memory of 37 megs should be reduced to 32 megs, and he also adjusted the Busy Hour days to include certain weekend days. (VNJb at 119). Verizon NJ argued that Mr. Ankum's switch cost recalculations should be rejected because his port charge is based upon an incorrect assumption that vertical services availability does not increase switch costs. (VNJb at 119). Verizon NJ criticized Mr. Ankum's qualifications because he is not an engineer. (Id. at 119).

In response to AT&T's argument (AT&Tb at 158) that the Pennsylvania Public Utility Commission has recognized that vertical feature costs should be recovered through port charges, Verizon NJ argued that, although the Pennsylvania Commission has made such a determination, costs of vertical features should be included in an end office switching cost study. According to Verizon NJ, the Pennsylvania Commission decision is a rate structure decision in which it determined that, rather than recover the costs of vertical services through end-office

switching, they should be recovered through the port charges.<sup>27</sup> (VNJrb at 107) The Company argued that the Pennsylvania Commission rate structure does not support Mr. Baranowski's elimination of all vertical feature costs from Verizon NJ's cost study and should be rejected. (Id. at 107-108).

### **AT&T Position**

Throughout the proceeding, AT&T argued that Verizon NJ's "switching cost is flawed because VNJ has simply added a per minute of use cost for vertical features to the switch minute of use cost." (AT&Tb at 158). In support of its position, AT&T argued that, as both the New York and Pennsylvania regulatory commissions have recognized, the basic port charge already includes all features and functionalities of the switch, except for those applications requiring specialized hardware. (*Ibid.*). AT&T asserted that VNJ's addition of vertical feature costs to switch usage is "an exercise in double counting." (AT&Tb at 158, referring to AT&T 58 at 18, and 14T3113-3114).

In response to Verizon NJ's allegation that Mr. Baranowski improperly eliminated the investment costs associated with the provision of vertical services in its re-run of Verizon NJ's model, AT&T stated that "Mr. Baranowski removed only the investment components already covered in VNJ's SCIS/MO model, but left in investment for all feature-related hardware." (AT&Trb at 86, referring to 14T3058-3059, 3067, and VNJ-67).

### **Board Discussion-Vertical Features**

The Board's task here is to determine whether the cost of vertical features should be included in the port charge, or whether it is appropriate to recover those costs through usage sensitive charges.<sup>28</sup> Verizon NJ includes the cost of the vertical features in the usage sensitive charges that are recovered on a per-minute-of-use basis. AT&T and WorldCom proposed that the charges be included in the port charge because they are not usage sensitive charges.

Both methodologies seek to do the same thing, i.e., recover the cost for vertical services. That being the case, it is a matter of rate design. A CLEC will benefit from Verizon NJ's rate design if its customer is a low or moderate usage customer because its costs will be the fixed rate port

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<sup>27</sup> Joint Petition of Nextlink Pennsylvania, Inc., and Joint Petition of Bell Atlantic Pennsylvania, Docket Nos. 00991648 and 00991649, Pennsylvania Public Utility Commission, 196 PUR4th 172, 1999 Pa PUC LEXIS 63 (August 26, 1999).

<sup>28</sup> The Board rejects as insufficiently supported the arguments suggesting that including the cost of vertical features in switch costs is double counting those costs.

charge plus any usage sensitive charges. Alternatively, if the vertical features are included in the port charge, and the customer has low or moderate usage, the CLEC's fixed monthly costs would be higher than if the features were included in the usage sensitive charges. Of course, the actual effect on the CLEC must take into account the CLEC's own rate structure used to charge its customers.

Based upon the foregoing, the Board's rate design is guided by cost recovery, since the ultimate design will spread the costs that have been determined in the model, based upon the Board's previous decisions relating to inputs and assumptions. The Board's goal is to ensure that costs are properly recovered. The Verizon NJ proposal is consistent with cost-causation principles. While the switching rates that emanate from this entire proceeding are directly relevant to unbundled switching, we believe that the rate structure proposed by Verizon NJ is reasonable and is consistent with the Board's previous rate design. In addition, adopting a rate structure that places more costs in the usage sensitive components, carriers are encouraged to evaluate the feasibility of deploying their own switches to eliminate the uncertainty that comes with purchasing switching from Verizon NJ. Accordingly, we **ADOPT** Verizon NJ's cost structure that incorporates the cost of vertical features in the usage sensitive component.

## **5. Switching Rate Design**

### **WorldCom Position**

In this proceeding, WorldCom has asked the Board to implement a flat rate switch rate design that carriers can purchase, in addition to the traditional MOU rate design. According to WorldCom, under a flat rate design, CLECs could purchase local switching from VNJ on a per line, per month basis, without a separate per MOU charge for usage, with the usage charge essentially built into the per line, per month rate. (WCb at 47). However, since this would be a new rate design, WorldCom recommends that Verizon NJ be required to implement both rate designs (traditional and flat rated) for the time being. (Ibid.).

In support of its position, WorldCom noted that Verizon NJ's switch vendor contracts show that switching costs are incurred in a similar manner as loop costs, in the sense that there is no incremental cost for an additional minute of use provided the designed capacity is not exceeded. (Ibid.). In WorldCom's opinion, both facilities represent a fixed cost. (Ibid., referring to 9T2260). WorldCom asserted that in Verizon NJ's switch vendor contracts, switching capacity is constrained by the number of lines and the number of trunk ports served by the

switch, and the processor and other equipment are installed with sufficient capacity to serve all the lines without blockage. In theory, according to WorldCom, switches are designed to handle a specific number of lines and trunks at an assumed level of capacity. WorldCom also noted that Verizon NJ's switch vendor contracts do not include usage based charges, and that, as a result Verizon NJ incurs no "per MOU" cost for each MOU on the switch. (*Ibid.*, referring to Verizon NJ witness testimony at 9T2262).

WorldCom asserted that Verizon NJ's rate design does not properly reflect cost causation, and because of this disparity, can therefore lead to uneconomic usage. (*Id.* at 47–48). WorldCom noted that the FCC's Local Competition Order at ¶622, states that costs must be recovered in a manner that reflects the way in which they are incurred. (*Id.* at 48, referring to the FCC Local Competition Order at ¶622). WorldCom concluded that, since Verizon NJ's cost of local switching does not vary on a per MOU basis, while its proposed cost recovery does, Verizon NJ's proposed rated design violates this FCC principle. (*Ibid.*).

In addition, WorldCom argued that both the new entrant and the incumbent should face the same underlying cost structure for local switching if they are to compete on a level playing field. (*Id.* at 49). Therefore, according to WorldCom, a flat rate switch rate design must be implemented for CLECs to not only follow principles of cost causality, but also to ensure competitively neutrality. (*Id.* at 49-50).

### **Verizon NJ Position**

In response to WorldCom's position, Verizon NJ relied on the testimony of its witness, Verizon NJ engineer Donald Albert. As set forth in his initial testimony, Verizon NJ argued that switches are designed, and purchased, based upon anticipated volumes of usage for that switch. (VNJb at 120, quoting from VNJ-11 at 14; VNJrb 110, referring to VNJ-25 at 8). Accordingly, Verizon NJ asserted that the sizing of a switch and, consequently, its costs, are based upon the usage characteristics of that switch. Therefore, the Company argued, in connection with rate setting, it is appropriate to recognize that the cost of switches is influenced by usage and that the cost recovery of such investment should be based upon Verizon NJ's two-tier switching cost rate structure, which includes a fixed charge for the port and usage sensitive switching charges. Verizon NJ maintained that such a structure enables it to recover costs based upon a cost causation basis. (VNJrb at 110).

### **Board Discussion - Switching Rate Design**

In reviewing the parties' positions, we are faced with a request by WorldCom to evaluate the effectiveness of the Verizon NJ proposed rate design for switching costs. WorldCom seeks a flat rate design that would effectively be fixed each month regardless of the customer's usage. From a CLEC's perspective, such a design could be extremely attractive because its costs would be fixed each month, while its revenues, based on usage, could vary according to its customers' calling patterns. Interestingly, WorldCom does not seek the abandonment of Verizon NJ's usage-based rate design, but merely recommends that a flat rate switch rate design be offered as well. Presumably, it seeks to have the usage-based rate design available to CLECs' low use customers, thereby avoiding the higher port charges required in a flat rate design.

WorldCom argued that principles of cost causation require adoption of its proposal, suggesting that since Verizon NJ's costs are fixed, and do not vary by usage, then the appropriate rate design should be fixed too. Verizon NJ, however, argued that the cost of switches is influenced by usage and that the cost recovery of such investment should be based upon Verizon NJ's two-tier switching cost rate structure, which includes a port charge, and a usage sensitive switching charge.

While we have carefully considered the rationale underlying WorldCom's position, we **DECLINE** to adopt its proposal. It is our belief that the proposed two-tier rate design properly reflects the cost causation associated with unbundled switching. Clearly, there are usage sensitive elements associated with switching, and to provide switching on any other basis would tend to send the wrong economic signals to CLECs and their customers. By accepting the WorldCom proposal, we would be encouraging tariff arbitrage by permitting CLECs to pick and choose the rate design that best suits its individual customer characteristics. This is inconsistent with the average rate design philosophy that guides this Board in virtually all of its retail and wholesale rates, including those set forth in this docket and the two-tier switching rate design in virtually every other state. In keeping with our already stated objectives and conclusions regarding rate design, we **HEREBY ADOPT** Verizon NJ's two-tier rate structure.

## **IV. NON-RECURRING COSTS OF UNES**

### **Statement of Issue**

Non-recurring costs are the one-time costs associated with tasks and activities necessary for VNJ to process and provision requests by CLECs for the installation, modification or disconnection of service. Two parties, VNJ and AT&T, have filed non-recurring cost studies estimating these costs. VNJ developed NRCs for 118 generic UNEs and 54 additional surrogates. (VNJb at 125). AT&T's study developed the costs for 49 UNEs. However, while similar in method to VNJ's studies (they both attempt to estimate the expected time and occurrence of an event multiplied by an assumed labor rate), their assumptions and methodologies are strikingly different. The Board will need to adopt either the Verizon NJ non-recurring cost model ("NRCM") or, the AT&T NRCM. In addition, the Board will need to select appropriate inputs and assumptions. According to Verizon NJ, its NRCM reflects only those costs that are incurred by it as a direct result of receiving a CLEC request for service. The AT&T NRCM, although similar, assumed a more mechanized process for handling CLEC orders and prices only those processes that it concedes must be performed manually. Although the Verizon NJ NRCM and the AT&T NRCM are similar in that they both follow the format of identifying the tasks that are performed, specifying the amount of time it takes to perform each task, estimating the frequency with which each task is performed, and setting forth an hourly labor rate, they differ markedly in their underlying assumptions and principles. Both models have assumptions and techniques that must be explored and analyzed to determine whether these assumptions and techniques support the reasonableness of the model and, hence, its results. Costs submitted by the Advocate, WorldCom and Covad generally utilize the Verizon NJ NRCM, or as in the Advocate's case recommend the adoption of other state PUC rates.

Non-recurring costs are significant because they are an up-front cost of doing business that new entrants will incur in conjunction with each customer that they win from Verizon NJ or, in some instances, from other CLECs. Non-recurring charges, if they are not forward-looking, can add significantly to the total cost that a new entrant will incur to use Verizon NJ's unbundled network elements, making competitive entry using those elements uneconomic. Conversely, inadequate non-recurring costs would result in Verizon NJ subsidizing competitors' entry into the local market.

The record clearly demonstrates that there are differences in the basic methodologies of the models presented. The record in this proceeding also indicates that the costs produced by the two versions of the NRCMs are strongly influenced by two factors: the assumptions of the model selected and the inputs made to those models.

## **Positions of the Parties to Recurring Cost Model**

### **A. Summary of Models, Assumptions and Approach**

#### **Verizon NJ Position**

Verizon NJ described its NRCM as based upon assumptions consistent with those made in its recurring cost study, and that by use of its NRCM, it derived TELRIC complaint costs for the one-time expenses associated with any labor activity necessary to fulfill a CLEC request for the initiation, change or termination of service . (VNJb at 122). Verizon NJ asserted that it recognized that non-recurring charges should only include costs that apply to the specific UNE ordered and that are caused by the specific customer acquiring that UNE. Verizon NJ further argued that only those costs incurred by it as a direct result of receiving a CLEC request for service were reflected in its NRCM. (*Ibid.*). Verizon NJ stated that the costs it incurs in this manner are not captured in the initial investment costs of providing network facilities and are not incurred in maintaining those facilities. Thus, Verizon NJ asserted that non-recurring costs do not find their way into either the investment or expense portion of the recurring cost model. (*Ibid.*). Additionally, Verizon NJ stressed that it “has guarded against even the theoretical possibility of ‘double counting’ such expenses through its practice of specifically subtracting non-recurring cost revenues” from the annual carrying charge factor. (*Ibid.*).

In response to arguments advanced by AT&T that most of the costs included in VNJ’s NRCM are recurring, rather than non-recurring because they are construction, administrative, and maintenance costs, Verizon NJ asserted that AT&T’s position “seeks to blur the distinction between the recurring and non-recurring costs so that the category of non-recurring costs all but disappears.” (VNJrb at 113). Verizon NJ maintained that such a position, if accepted, “would virtually eliminate the non-recurring charge as a cost construct and would render an entire section of the FCC’s First Report and Order superfluous.” (*Id.* at 113). Verizon NJ also contended that the activities its NRCM are “incurred directly as a result of CLEC service requests” and that “[n]one of the costs modeled in the Verizon NJ NRCM [were] incurred periodically over time.” (VNJb at 123; VNJrb at 116). Verizon NJ refuted AT&T’s claims to the contrary and asserted that “there are no construction costs or maintenance expenses included in the Verizon NJ NRCM.” (VNJrb at 114). As to construction costs, Verizon NJ explained:

[T]he construction cost of putting network facilities in place is included as part of the outside plant investment, which is recovered in Verizon NJ's recurring rates, as is the expense of regularly maintaining the Verizon NJ network. Thus, field installation charges include only those costs associated with the additional work performed by Verizon NJ to activate the service in response to a particular CLEC request. Verizon NJ's field installation charge is applied only when a field visit is necessary or when a field visit is requested by the CLEC. While AT&T uses the placement of an intermediate cross connect as an example of a work activity which will benefit all future customers, and supposedly for that reason recoverable as a recurring charge, its position totally ignores the realities of the field, the logistics of the central office and the future environment of subloop unbundling. Each of these factors determine that a cut through cannot exist 100% of the time and that intermediate cross connects must be performed some of the time.

[Ibid.]

Verizon NJ also countered AT&T's allegations that many of its non-recurring cost are either administrative or maintenance expenses in nature and as such should be included in recurring rates. According to VNJ, the very administrative-type tasks that AT&T objected to are the same activities requested by the company in the provision of UNEs. (VNJb at 124). In addition, VNJ maintained that the maintenance activities objected to by AT&T "are not the routine and periodic tasks of maintaining the network that are captured in the recurring cost model, [because] these costs would not be incurred but for the CLEC request." (Ibid.).

### **Advocate Position**

The Advocate, though not supporting the use of the AT&T NRCM (Ab at 29-31, 83 n. 5), joined in AT&T's criticism of Verizon NJ's NRCM. The Advocate argued that if a one-time activity might benefit future customers as well as the current customer, then costs associated with that activity should be included in the recurring, and not the non-recurring charge. (Id. at 83). Additionally, the Advocate stressed that excessive non-recurring charges pose a barrier to entry for CLECs and, therefore, recurring costs are prohibited by 47 C.F.R. §51.507(d) from being recovered through non-recurring charges. (Id. at 84). The Advocate further emphasized that in setting non-recurring rates, the Board must prevent over-recovery of costs, and to do so, the same forward-looking network assumptions should be used in determining non-recurring rates as are used in determining recurring rates. (Id. at 84-85). The Advocate alleged that while VNJ appeared to recognize this requirement, it had not followed it. (Id. at 85).

## **AT&T Position**

AT&T's position is premised on its understanding of the key distinguishing characteristic between those costs that should be recovered in recurring charges and those that can be recovered in non-recurring charges. (AT&Tb at 169). The key distinguishing characteristic, as AT&T defined it, is "whether each cost, once incurred, is for facilities that can be reused to provide service to a subsequent customer without change and if so, the cost should be recovered as a recurring cost and not as a non-recurring cost." (*Ibid.*). According to AT&T, this principle forecloses any capital costs for unbundled network elements from being included in non-recurring charges because all capital items could be used to supply service to another customer. AT&T stated that this is true for plant that can be used for many customers as well as plant dedicated to a given customer premises, and costs of such plant and the labor used to install such plant should not be considered non-recurring charges "because once the plant has been installed to serve one customer, another customer at the same customer's premises can reuse that plant at no additional cost for that plant". (*Id.* at 169-170).

AT&T asserted that the only permissible costs that can be recovered as non-recurring charges are "the cost of performing a transaction that only provides a benefit to the CLEC when it orders UNEs", *i.e.* the costs of actually performing the tasks of preordering, ordering, and provisioning. (*Id.* at 170). AT&T claimed that recovering recurring costs through non-recurring charges would create a barrier to entry to CLECs. (AT&Trb at 88). AT&T argued that most of the costs included in Verizon NJ's NRCM did not adhere to the basic principle of non-recurring charges and are, in effect, recurring costs. (AT&Tb at 169-170). It, therefore, urged that the Board to reject VNJ's NRCM and adopt its NRCM.

## **B. Descriptions of Non-Recurring Cost Models**

### **1. The Verizon NJ Non-Recurring Cost Models**

#### **Verizon NJ Position**

Verizon NJ described its NRCM as a model that analyzes the one-time costs to Verizon NJ for providing UNEs to CLECs requesting the initiation, change or disconnection of service. (VNJb at 125). Verizon NJ explained that its model developed costs for 118 generic UNEs as well as 54 additional surrogates mapped to those generic UNEs, utilizing surveys to reflect time

estimates and estimates of the frequency with which particular activities must be performed in the current environment. (Id. at 125-126). Survey questionnaires for the different work groups involved in providing wholesale services were developed by Verizon's Service Costs organization, which used the list of possible work activities.

According to VNJ, its Operations Assurance and Administration ("OA&A") and Product Management groups reviewed the materials to ensure that the questionnaires accurately reflected the flow of work in various groups. After this review, the surveys and detailed instructions regarding the surveys were provided to the associate and management personnel most familiar with the particular activities being studied of organizations involved in processing CLEC requests for service. A panel of eighteen experts from the Service Costs, OA&A, Network Operations Methods and Product Management groups (the "Panel"), all of whom were familiar with, inter alia, Verizon's OSS and other mechanization efforts, reviewed the results of the survey, and adjusted the survey results by application of forward-looking adjustment factors, according to VNJ. (Id. at 129).

According to Verizon NJ, the labor rates were levelized over a two-year period, in order to reflect the fact that labor costs will increase, and resulting costs were allocated an appropriate portion of common overhead and gross revenue-related expenses through the application of Annual Charge Factors (ACFs). (Id. at 126). Verizon NJ also noted that the costs were developed for both a standard interval and an expedited interval, where the costs for expedited service reflected that such service would require Verizon to incur additional costs related to premium pay for work outside normal workshifts. (Ibid.). Verizon NJ also developed costs reflecting a manual service order surcharge, which is applied when a CLEC affirmatively chooses not to submit an order electronically. (Ibid.).

In addition to the Verizon NJ's NRCM, Verizon NJ submitted the following studies providing additional non-recurring costs:

- 1) The Dark Fiber Study - provides NRCs for dark fiber loop and IOF UNEs,
- 2) The SMDI Port Study - provides the NRCs for a Simplified Message Desk Interface installation,

- 3) The PRI Port Study - provides the NRCs for an ISDN Primary Rate Interface Port installation,
- 4) The DID Port Study - provides the NRCs for a Direct Inward Dialing Port installation,
- 5) The DCS Study - provides the NRCs for Digital Cross-connect System Port installation,
- 6) The LIDB Study - provides the NRCs for Line Information Data Base service,
- 7) The DUF Study - provides the NRCs for Daily Usage File service,
- 8) The AIN Service Creation Study - provides the NRCs for Advanced Intelligent Network service,
- 9) The Line Sharing Studies - provides the NRCs for both Splitter Installation and Collocation Equipment Support, and
- 10) The Loop Qualification and Line Conditioning Study - provides NRCs for Loop Qualification (Id. at 127).

Verizon NJ stated that, with the exception of the Telecom Industry Service Operating Center ("TISOC") and the Mechanized Loop Assignment Center ("MLAC") studies, the work times used to calculate costs in the Verizon NJ NRCM were based on the surveys of personnel involved in the studied activities on a day-to-day basis and, thus, were systematically and realistically developed. (Id. at 128). According to the Company, the TISOC study was based upon a study developed by an outside consultant, using actual observations of processing over 800 service orders in the New York and Boston TISOCs, with a downward adjustment to capture the effect of the anticipated implementation of OSS electronic interfaces on fallout rates. (VNJb at 129-130). The time estimates for MLAC activities were based on a monthly MLAC productivity report that tracks the number of requests for manual assignment, and the hours required to resolve the requests, which are processed in New York and Boston. Verizon NJ refuted WorldCom's proposed adjustments to the work times and probabilities of occurrence factors in its NRCM because Verizon NJ argued that WorldCom had failed to provide any basis or rationale for the adjustments. (VNJb at 142).

According to the Company, its NRCM reflected forward-looking costs, and it refuted AT&T's, MCI's and the Advocate's assertions to the contrary. (VNJ; AT&Trb at 94; WCb at 50; Ab at 88; Arb at 37-38). Specifically, Verizon NJ argued that although today's methods of operations

were utilized in developing the work activities times, those times were adjusted to fully reflect the effects of planned mechanization efforts as well as increased worker productivity. (VNJb at 130-131). Verizon NJ stated that the forward-looking mechanization adjustments reflected among other things, electronic application-to-application ordering interfaces; flow through service order and work order distribution; fully automated, remote network activations process and system for all electronic elements; and intelligent hand-held technician work stations which permit electronic work order close out. (Id. at 131).

Verizon NJ maintained that while its NRCM fully reflected the effect of future changes to the network, certain activities will continue to require manual work effort. (Ibid.). VNJ noted that its studies assumed that in some cases work currently performed by the Regional CLEC Coordination Center ("RCCC") would be eliminated due to mechanization and other activities would be improved. (VNJb at 131). According to VNJ, "[t]he RCCC assigns service order requests from the TISOC to various RCCC coordinators who receive and analyze the service order request." (VNJrb at 119). However, Verizon NJ argued that AT&T's elimination of the RCCC was inappropriate because "[t]he work performed in the RCCC is necessary to accomplish the transfer of working loops from ILEC to CLEC and for CLEC to CLEC loop transfers as well" and "[b]ecause CLECs demand that Verizon NJ be prepared to provision UNEs on a specific date and within a narrowly specific time interval in order to minimize end user service disruption, the work of the RCCC will be essential so long as such demands persist." (VNJrb at 119). Verizon NJ stressed that because "[e]ach of the RCCC coordination procedures is needed to assure service quality for end users," it would be "unconscionable for AT&T and other CLECs to demand (on behalf of their customers) innumerable specific activities from the RCCC and to use its work and resources to their patent benefit, while insisting that the costs of these procedures be eliminated from the NRCs." (Id. at 123-124).

In addition Verizon NJ asserted that its application of the Engineering, Furnishing & Installation "EF&I" charges in determining NRCs for splitter installation was the only costing methodology that provided a realistic estimate of what the splitter actually costs. (Id. at 125-127). Verizon NJ claimed that Covad's recommendation of no more than \$17.50 per shelf was not supported by any evidence and lacked allowances for basic assumptions such as time for a technician to arrive at an installation location. (Id. 125-126).

Verizon NJ's NRCM also calculated non-recurring costs associated with the disconnection of service, and VNJ argued that parties that criticized its approach and assumed that disconnection does not occur with deactivation of service were wrong. (VNJrb at 124). Assessed along with installation costs, the disconnect costs, as described by Verizon NJ, utilized a "present worth factor [of 2.5 years] . . . to calculate the current value of the future amount." (VNJb at 132). Verizon NJ reasoned that the up-front recovery of non-recurring disconnect costs is a standard practice in the telecommunications industry because, once disconnection has occurred, it is very difficult to recover its associated cost. (*Ibid.*). Verizon NJ explained that the 2.5 year factor was its best estimate of the average service duration with respect to its CLEC customers. (*Ibid.*). Verizon NJ also argued that the decision of an Administrative Law Judge in a proceeding in New York<sup>29</sup> confirmed "that recovery of disconnection costs and the manner proposed by Verizon NJ and others adopting the Verizon NRCM is a standard practice, and no persuasive reason has been presented for changing it." (VNJrb at 125).

### **Advocate Position**

The Advocate contended that the Verizon NJ NRCM should be rejected because it failed to comply with forward-looking TELRIC rules, and "does not model -- or even attempt to model -- a forward-looking network." (Ab at 88). The Advocate asserted that the Verizon NJ NRCM was flawed because it assumed an improper level of mechanized Operations Support System (OSS) and "inappropriately high OSS fallout rates"; assumed an incorrect long-run time horizon; erroneously included disconnect costs in installation rates; improperly included recurring costs such as maintenance and repair; improperly determined costs of converting Verizon NJ customers to CLEC customers by using non forward-looking assumptions, and used faulty work time surveys. (*Id.* at 88-105). The Advocate argued that the Board, therefore, should reject VNJ's assumption that multiple loop and complex UNE orders will not be processed by electronic OSS; establish an OSS system-wide fallout rate of 2% as required by the Connecticut Department of Public Utility Control; adjust model inputs for a long-run time horizon; order installation charges reduced by the amount of the disconnect costs and create a separate disconnect charge; which should account for a forward-looking network design and OSS;

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<sup>29</sup> Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Element, Recommended Decision on Module 3 Issues by Administrative Law Judge Joel A. Linsider, Case 98-C-1357, p. 190 (N.Y. P.S.C. May 16, 2001)

remove recurring costs such as maintenance and repair; reject VNJ's proposed conversion rate and instead approve the \$.30 rate proposed by WorldCom's witness Stacy; and reject VNJ's survey. (*Ibid.*). The Advocate asserted that "[w]hile some of these flaws can be corrected, it would take a Herculean effort, even were it possible at all, to run the model, correcting all the flaws. Requiring Verizon NJ to submit a new cost model would only serve to prolong the existing non-TELRIC compliant rates and thereby delay the roll-out of competitive service offerings ... [and] cause all parties including the Board and its staff, to expend substantial resources litigating these issues yet again." Therefore, the Advocate argued that the Board should adopt, certain "nonrecurring rates previously ordered by the Pennsylvania Commission because they are the lowest, and therefore the best, comparable rates available and to the extent that no neighboring state had ordered a TELRIC nonrecurring rate for a particular UNE, the Board should adopt corrections set forth by the Advocate and order rates adjusted accordingly." (*Id.* at 106-107).

### **AT&T Position**

AT&T argued that Verizon NJ's NRCM should be rejected because it improperly included: (1) "inefficient manual costs which should be eliminated by efficient automated processes"; (2) "manual coordinated cutover costs"; (3) "[non] forward looking network facilities and processes"; (4) "costs which should have been classified as recurring costs"; and (5) "a disconnect fee up-front at the time the service is ordered." (AT&Tb at 176).

As to its first criticism, AT&T claimed that Verizon's RCCC "does not fulfill a single physical task that is actually required to provision service, but is simply a work group that was created as an overlay to a normally mechanized flow of non-recurring work activity," and, thus, was not forward-looking. (*Ibid.*). In response to VNJ's argument that manual coordination is provided because CLECs have asked for coordination, AT&T argued that the manual coordination included by VNJ is coordination among VNJ work groups, not with CLECs. (AT&Tb at 177). It also argued that coordination functions performed in part by the RCCC are automated through VNJ's OSS, and the VNJ NRCM "redundantly includes several tasks that are or should be automated." (*Id.* at 176-178). AT&T also asserted that "[e]ven if some coordination is required at the outset of the competitive era, it is unreasonable to presume that VNJ will require a permanent, long run process of manual oversight of its workforce for every unbundled element

ordered [and] the TELRIC standard requires that NRCs reflect the efficient operations that will prevail in the long run.” (Id. at 178).

AT&T’s second criticism of the Verizon NJ NRCM was that the proposed coordinated cutover charge, as a matter of public policy for the reasons given in the Generic Order should be rejected. (Id. at 179). AT&T asserted that any cost of coordinating service cutover should be viewed as a mutual obligation of both the new entrant and VNJ for which no charge is assessed.” (Ibid.). In its third criticism, AT&T argued that Verizon NJ’s NRCM imposes unnecessary manual cross-connects which do not fully reflect a forward-looking network because it does not use a forward-looking mix of technologies and incorrectly assumes that loops will be provisioned on copper or UDLC facilities 90% of the time. (Id. at 180-182). AT&T’s fourth criticism of Verizon NJ’s NRCM is that it improperly misclassified the costs for outside plant dispatch as non-recurring. (Id. at 182-184). AT&T contended that when a CLEC pays for a loop it pays the recurring rate to have the loop fully connected, including all the components such as installation and maintenance necessary to provide a complete communications path, and that installation and maintenance should not be double-counted as non-recurring costs. (Id. at 183-184). Finally, AT&T claimed that the Board should reject the Verizon NJ NRCM’s calculation of the non-recurring costs associated with the disconnection of service and adopt the AT&T NRCM’s separate treatment of those costs from provisioning, because its model serves public policy goals, such as allowing CLECs to pay for disconnection after ordering disconnection and rewarding companies who provide superior service and retain their customers. (Id. at 184-185).

### **Covad Position**

Covad argued that Verizon NJ used a “backward-looking methodology” to calculate its proposed non-recurring loop rates and that the Verizon NJ NRCM should be rejected or modified to reflect its recommended adjustments. (COVb at 3). In addition to its methodological deficiencies, Covad argued that Verizon NJ’s cost study included improper or bloated time and cost estimates that would price competitors out of the burgeoning New Jersey telecommunications market. (Id. at 4-6).

In support of its position and relying upon rebuttal testimony of its witnesses Terry L. Murray and Joseph P. Riolo, Covad explained in its initial brief that Verizon NJ:

developed the labor times for completing provisioning tasks by surveying its employees, but direct[ed] them to disregard forward-looking efficiencies. Specifically, Verizon-NJ told the surveyed employees to report on the time that tasks actually take, rather than what time they *should* take. This instructions biased the survey by not including forward-looking labor, ensuring that times. In addition, Verizon NJ assumed that local service requests for loops would be performed manually. There is absolutely no justification for assuming that orders will need to be re-typed in a forward-looking cost study.

Lastly, Covad argued that Verizon NJ seeks to recover the cost of performing provisioning activities inefficiently. For example the Company included manual work time for the RCMAC work group for the following activities:

- 1) begin coordination process,
- 2) analyze order for work activity,
- 3) eliminate roadblocks from the order,
- 4) assign order to Technician,
- 5) perform administrative checks,
- 6) verify Provisioning NEW LINE installation has been performed by the field forces; and
- 7) update work activity in required systems.

[Covad-1, at 83-86, 146].

## **WorldCom Position**

WorldCom also argued that the Verizon NJ NRCM methodology is not forward-looking and needs to be revised. (WCb at 51). According to WorldCom, the use of the surveys, the manner in which the surveys were conducted, and the manner in which the results were reviewed caused the Verizon NJ NRCM to be flawed. (*Id.* at 51-52). Additionally, WorldCom argued that the Verizon NJ NRCM overstated the non-recurring costs because of its failure to consider OSS improvements, which would allow for increased mechanization in responding to CLEC orders. (*Id.* at 53-56). WorldCom submitted that VNJ should be required to file a revised NRCM reflecting “reasonable forward-looking assumptions and the efficient utilization of available processes and systems” and until it does so, VNJ should not be allowed to recover nonrecurring costs from competitors. (*Id.* at 56).

## **2. The AT&T Non-Recurring Cost Model**

## AT&T Position

According to AT&T, its NRCM estimated the forward-looking one-time costs associated with the tasks and activities required to initiate or provide wholesale services, interconnection or UNEs to CLECs. (AT&T Exh. 54, Walsh at 7). Its study estimates the following costs of: pre-ordering, ordering, provisioning, repair and maintenance, and billing associated with the provision of UNEs. AT&T explained that its NRCM is based on a simple straight-forward principle: electronic, mechanized processes would be used primarily by a forward-looking firm, and AT&T argued that, unlike Verizon NJ, it based NRCs on the same forward-looking network that is the construct underlying its recurring cost calculations. AT&T argued that its model developed non-recurring charges by first identifying the activities that Verizon NJ must perform, estimating the amount of time to perform each activity, and incorporating the percentage of times that activity will happen. (AT&Tb at 171-172). Specifically, AT&T described its NRCM in the following manner:

The NRCM identifies 225 detailed steps, which occur when a CLEC order is placed and then maps the activities to each network element which is cost. The costs reflect the activities performed, the probability of the activities occurrence, the time to complete the activity, and the following additional inputs: labor rates, copper loop percentage, manned vs. unmanned central office ratio, trip time, work activities per order, percentage dedicated facilities, common overheads, POTS fallout, and complex order fallout.

[Id. at 171, n. 184.]

AT&T asserted that its model utilized a forward-looking 6.9% overhead factor for establishing non-recurring costs. (Id. at 171). AT&T maintained that its model developed reasonable, forward-looking charges that reflected the least cost, most efficient technologies available, such as automated OSS and efficient processes, and minimized manual intervention in the provisioning process. (Id. at 172-173). Thus, AT&T claimed that its model incorporated the “efficiencies provided by automated Intelligent Network Elements (such as SONET, GR303-IDLC, and Digital Cross Connect Systems), which allow for the electronic provisioning of orders,” while including the necessary manual activities. (Id. at 173).

AT&T concluded its description of its NRCM by arguing that there should be separate disconnection charges assessed simultaneously with the placement of the CLEC's disconnect order. (Id. at 175). AT&T argued that assessing the disconnect charge in this manner "more accurately adheres to the principle of cost causation" because it reflects the reality that telephone companies do not necessarily physically disrupt service when service is deactivated. (Ibid.).

### **Verizon NJ Position**

Verizon NJ argued that the AT&T NRCM consisted of cost assumptions that were not factually supported and that AT&T's model was nothing more than baseless assertions. (VNJb at 136). According to Verizon NJ:

In page after page, AT&T describes its NRCM as "forward-looking" and as utilizing automated OSS that companies like Verizon NJ have "already developed." It provides the Board with no basis for these assertions. Similarly, its contention that its NRCM reflects "technologies available in the marketplace today" is without any reference other than the unsupported assertions of its own witnesses. Its claim that the "automatic flow-through . . . process described by Mr. Walsh is in place today" is evidenced nowhere. . . . With respect to its inputs, its occurrence factors and its work time estimates, the AT&T NRCM offers nothing in the way of solid evidence beyond the resumes of its hired consultants.

[VNJrb at 128-129.]

Verizon NJ further argued that the AT&T NRCM is deficient because it failed to include many of the specific elements that prohibit the Board from developing costs for all necessary UNEs. (VNJb at 134). Verizon NJ explained that of the non-recurring costs for 49 UNEs developed by the AT&T NRCM, 2 were not pertinent to this proceeding, and the remaining 47 frequently count the connection and disconnection of the same UNE as a separate element, "in effect counting that element twice." (VNJb at 132-133). VNJ asserted that eliminating corresponding disconnects, showed that AT&T developed nonrecurring costs for only 29 elements. (Id. at 133). According to Verizon NJ, the AT&T NRCM neglected to include the following UNEs, which were included in VNJ's model:

- #19 - Line Port Hotcut Initial
- #20 - Line Port Hotcut Additional
- #21 - End Office Trunk Port Initial
- #22 - End Office Trunk Port Additional
- #40 - IOF Voice Grade
- #43 - IOF DDS
- #45 - Entrance Facilities 2-Wire Voice Grade
- #46 - Entrance Facilities 4-Wire Voice Grade
- #49 - Multiplexing DS3 to DS1
- #50 - Multiplexing DS1 to Voice Grade
- #53 - STP Port Termination
- #65 - Manual Loop Qualification
- #66 - Engineering Query
- #67 - Engineering Work Order
- #80 - Customer Specified Signaling (CSS) 2-Wire New Initial
- #81 - Customer Specified Signaling (CSS) 2-Wire New Additional
- #82 - Customer Specified Signaling (CSS) 4-Wire New Initial
- #83 - Customer Specified Signaling (CSS) 4-Wire New Additional
- #163 - DS3 Loop
- #165 - Line Sharing Initial
- #166 - Line Sharing Additional
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[Id. at 133-134.]

In addition, Verizon NJ argued that the AT&T NRCM overstated work time estimates because “[o]f the 98 lines containing work time estimates, there appear to be many duplicates.” (Id. at 135). In support of this allegation, Verizon NJ stated:

[T]he same work time estimates are used repeatedly for different Work Centers/Technician Types. For example, the “Pull and Analyze Order Steps” (Steps 48, 50-54) all have an estimate of 2.50 minutes regardless of whether this activity is performed in a Frame Control Center (“FCC”), a Facility Maintenance Administration Center (“FMAC”), a Special Service Installation & Maintenance/Outside Plant work center, a Network Terminal Equipment Center (“NTEC”), or a Special Service Center (“SSC”). Taking into account these duplications, AT&T’s panel actually made only about 37 distinct work time estimates.

[Ibid.]

Verizon NJ also questioned the documented support for the following ten input fields or key cost drivers of the AT&T NRCM: NRC Element Type; State Selection; Manual Labor Rates; Copper

Loop Percentage; Central Office Staff Ratio; Average Trip Time; Average Set Up Time; Number of Work Activities Per Order (Central Office); Percentage Dedicated Facilities; Variable Overhead. (Id. at 139-141).

Verizon NJ concluded that the AT&T NRCM must be rejected because it derived costs for fewer elements than the Verizon NJ NRCM, and also relied on estimate times and occurrences that were based on nothing more than a collection of the opinions of AT&T's consultants, which were not based on their own wholesale provisioning experience or any methodology for which the Board was provided supporting materials. (Id. at 141).

### **Advocate Position**

The Advocate stated that it did not support the use of the AT&T NRCM. (Ab at 83, n. 5).

## **C. Major Inputs and Assumptions**

### **1. Forward-Looking Network Assumptions**

#### **Verizon NJ Position**

The composition of Verizon NJ's forward-looking network assumed a "loop feeder network consisting of 40 percent copper cable, 50 percent universal digital loop carrier ("UDLC") and 10 percent integrated digital loop carrier ("IDLC") configured with a GR303 interface." (VNJb at 142). In response to other parties' assertions that Verizon NJ's network architecture is not forward-looking, Verizon NJ claimed that:

[a] principal reason for these parties' insistence upon the assumption of GR303 technology in the network is that it leads to the further (but unwarranted) assumption that Verizon NJ is able to "hand off" 24 analog loops to a CLEC utilizing a single central office cross connect rather than 24 separate cross connects, thus cutting the cost for central office work by more than 90%. The problem with this assumption is that there is no network basis for such a form of provisioning.

[VNJrb at 129-130.]

Verizon NJ further maintained that it hands off all voice grade loops -- regardless of whether they are transported on DLC -- on individual copper pairs pursuant to the technical definitions of an unbundled loop in Verizon NJ's interconnection agreements. (VNJb at 144). In addition, Verizon NJ asserted that the Board should reject AT&T's assumption that all 2-wire loops transported on digital loop carrier are handed off as a DS1, because it essentially combined the costs of two physically different loop configurations into a single rate. It asserted that under AT&T's assumption, AT&T and other CLECs would continue to receive analog 2-wire loops handed off on copper wires, but avoid the cost associated with performing the manual cross-connects. (VNJb at 144-145). Verizon NJ also noted that it declined to assume 100% dedicated inside plant ("DIP") and 100% dedicated outside plant ("DOP") because it claimed that such practices would be inefficient and impossible in a forward-looking environment. (VNJb at 146).

Verizon NJ criticized the AT&T NRCM network, which is 40% copper and 60% IDLC, because its "assumed configuration . . . is not an unbundled voice grade analog loop, but rather a new and as yet undeveloped UNE." (*Id.* at 143). Verizon NJ claimed that the GR303 technology assumed by AT&T for provisioning unbundled voice grade analog loops was not within its "current planning horizon" and that there is a tremendous difference between a single carrier using GR303 multi-hosting with their own switches (which can be done), versus multiple carrier using GR303 multi-hosting connected to a number of different CLEC switches (which cannot be done)." (*Id.* at 145). Verizon NJ contended that the GR303 configurations were not feasible for use in the unbundled wholesale environment and that "[n]o ILEC is currently using GR303 based systems in provisioning unbundled analog loops to CLECs." (VNJrb at 130-131).

### **Advocate Position**

The Advocate urged the Board to adjust the Verizon NJ NRCM to reflect 100% deployment of GR303 rather than the copper/fiber DLC mix modeled by Verizon NJ. (Ab at 89; Arb at 38). The Advocate also urged the Board to adopt, where possible, the best comparable rates ordered by neighboring state commissions in lieu of modifying the Verizon NJ NRCM, and to make specific adjustments or order specific rates where comparable rates did not exist. (*Id.* at 90).

### **AT&T Position**

AT&T argued that the Verizon NJ NRCM included embedded costs, such as its inclusion of RCCC costs, in its proposed non-recurring charges and assumed that fiber-fed loops must be unbundled with embedded UDLC, rather than a forward-looking costs architecture, and, therefore, should be rejected. (AT&Tb at 186-187). AT&T then argued that its model should be accepted by the Board because it indicates that 50% of all loops will be provided on integrated digital loop carrier. (Id. at 187). The AT&T model further assumed that all 2-wire loops transported on digital loop carrier are handed off as a DS1 and, therefore, that 50% of loops do not require a manual cross-connect. (Ibid.).

### **Covad Position**

Covad argued that Verizon NJ's methodology was flawed and backward-looking for several reasons. (COVb at 3). First, according to Covad, the labor times for completing provisioning tasks as provided by Verizon NJ employees in response to survey questions, were biased. (Ibid.). Second, Covad argued the forward-looking adjustment made by Verizon NJ to the work times provided by the employee answers to the surveys did not "eliminate the assumption that a significant percentage of orders will be manually re-typed." (Id. at 4). Covad also criticized Verizon NJ's NRCM because it "seeks to recover the cost of performing provisioning activities inefficiently." (Ibid.).

### **WorldCom Position**

WorldCom urged the Board to reject Verizon NJ's imposition of UDLC costs on competitors and to require Verizon NJ to adjust its cost studies to reflect 100% GR303. (WCb at 18-24). According to WorldCom, Verizon NJ's assertion that "for CLECs choosing to interface at the DSO level the only alternative technically available is a universal interface -- i.e. UDLC -- flies in the face of recent technological developments and VNJ's own internal engineering guidelines." (Id. at 20). WorldCom argued that Verizon NJ should be required to deploy GR303 because it deploys it for its own use. (WCrb at 10-12). Additionally, WorldCom argued that the integrated digital loop carrier systems allow for traffic to be concentrated in a more efficient and less expensive manner. (Id. at 24-25; WCrb at 10, 12). WorldCom also urged the Board to require

Verizon NJ to adopt a 6:1 concentration ratio in its cost studies in order to reflect the efficiency of the GR303 concentration functionality. (WCb at 25).

## **2. Role of OSS**

The parties' arguments claim to adhere to the principle that OSS assumptions used in modeling non-recurring charges must be based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration. The proper application of that standard is the major issue of contention among the parties. Fundamental in the application of that standard is the treatment of what is known as the fallout allowance.

### **Verizon NJ Position**

Verizon NJ maintained that its studies start with a baseline that reflects current times to perform particular tasks, thorough reviews of both the current time to perform each activity and the percentage of time each activity occurs, in order to determine the impact of OSS and other mechanization efforts on future costs. (VNJb at 150).

With regard to flow through considerations, Verizon NJ asserted that its studies are correct in reducing, but not eliminating, manual involvement because "[i]t is unreasonable to assume that provisioning activities such as design, assignment and dispatch virtually always occur automatically, without human intervention." (Id. at 156). Verizon NJ explained that "[w]hile it is true that technological advances such as digital switching and fiber deployment have resulted in significant efficiencies to Verizon NJ's network, these efficiencies do not translate to the virtual elimination of manual intervention and provisioning." (Ibid.). Verizon NJ further noted that "[n]on-recurring costs associated with provisioning UNEs in Verizon NJ's studies are based only on the physical work activities that will continue to be required even with the technologically advanced network architecture." (Ibid.).

Specifically, Verizon NJ argued that TISOC involvement will continue in the future to deal with the types of CLEC ordering errors which cannot be addressed mechanically. (Id. at 151-152). As for the RCCC, Verizon NJ claimed that these activities are necessary "both for the transfer of working loops (hotcuts) from Verizon NJ to a CLEC and for CLEC to CLEC loop transfers . . .

[and] will continue to be necessary to provision network elements in the future” though at a reduced rate of incidence of certain activities. (Id. at 153). Verizon NJ argued that the omission of RCCC critical activities and the costs in the AT&T NRCM and in WorldCom’s testimony “accounts for a significant amount of the difference between the non-recurring costs shown in the[ir] respective studies.” (Ibid.). Verizon NJ also explained that based on a monthly MLAC productivity report tracking the number of Requests for Manual Assignments (“RMAs”) and the realistic expectations of its managers in the capacity of planned OSS to process requests for wholesale services, it assumed a 96% flow through for these provisioning centers. (Id. at 152).

### **Advocate Position**

The Advocate argued that the Board, as a preliminary matter, should determine the UNEs to which electronic, as opposed to manual, OSS should apply. (Ab at 91). The Advocate also argued that the Board should be required to reject the assumptions and rates set forth by Verizon NJ because Verizon NJ did not use the most efficient telecommunications technology currently available in determining its OSS fallout assumptions and rates. (Id. at 91-92). The Advocate also urged that OSS assumptions be required to take into account forward-looking network topology aspects, such as deployment of 100% GR303, that would lead to greater mechanization. (Id. at 93).

### **AT&T Position**

AT&T argued that the mechanization of order handling of the OSS allows for the provisioning of services without manual coordination, and that this mechanization should be reflected in the Verizon NJ NRCM. (AT&Tb at 188). According to AT&T, its NRCM “reflects this principle; it uses inexpensive mechanized processes for handling CLEC orders wherever possible and prices those processes which of necessity must be performed manually.” (AT&Tb at 167). A key element of the AT&T study resides in the fact that it believes that in a “modern telecommunications network most of the processes needed to order and provision unbundled network elements are mechanized and can be performed by VNJ’s Operations Support Systems” and that “[i]n a forward-looking environment, even more of the processes will be mechanized and the need for manual intervention will continue to diminish.” (Ibid.).

## **WorldCom Position**

WorldCom argued that “VNJ’s failure to consider OSS improvements and to implement process improvements, which would allow for increased mechanization in responding to CLEC orders, has resulted in an overstatement of the manual intervention required in handling orders and, in turn, results in an overstatement of the nonrecurring costs associated with these orders.” (WCb at 53).

### **a. Fallout Rate**

## **Verizon NJ Position**

Verizon NJ argued the “fallout rates reflected in the Verizon NJ NRCM appropriately recognize that the level of manual activity in the future will vary for each UNE” and that “[f]or more common UNEs, such as 2-wire UNEs, Verizon has very aggressively assumed a 4% fallout rate.” (VNJb at 151). Verizon NJ claimed that the Verizon NJ NRCM reflects the expert opinions of those persons who are responsible for the development of the Verizon NJ OSS and other network improvements, and, thus, are not mere ungrounded assumptions. (VNJrb at 133). Refuting the CLECs’ and the Advocate’s assumption of a 2% across the board fallout rate, Verizon NJ stated:

[t]his 2% fallout rate urged by the CLECs and the Advocate has attained something of a status of an urban legend in these and related proceedings. But there has never been a credible basis presented by anyone to justify a 2% fallout rate, and the only support for such a rate ever presented by any of the parties is the supposed fallout rate of the EASE system used by Southwestern Bell Telephone (“SWBT”). That figure has been demonstrated to be inapplicable outside a limited residential retail context; moreover, SWBT has been emphatically clear in disavowing the applicability of that figure in the UNE provisioning context.

[Id. at 134.]

In rejecting the claim that there should be a single fallout rate assumed for each and every work center, Verizon NJ stated:

[t]here is nothing in telecommunications experience that leads to the conclusion that such a prodigy of statistical synchronicity could possibly be an accurate reflection of what will happen in the future. Verizon NJ's studies show what practical experience in any work environment would predict -- that the level of fallout will, and must, vary by activity.

[ibid.]

### **Advocate Position**

The Advocate argued that the “Board must determine what, if any, percentage of the transactions that electronic OSS should handle will fallout so that they must be processed manually.” (Ab at 94). In making this determination, the Advocate argued that the Board should reject the 4% fallout rate and the application of the fallout rate on individual systems as proposed by Verizon NJ. (ibid.). The Advocate urged the Board to establish a system-wide OSS fallout rate of 2%. (Id. at 95).

### **AT&T Position**

AT&T contended that the Verizon NJ NRCM failed to reflect the “efficient use of OSS” and wrongly “treat[ed] all new entrant service orders as something unusual that must be kicked off the production line for manual handling.” (AT&Tb at 187-188). AT&T maintained that new entrant orders should, instead, be treated as “just another order.” (Id. at 188). AT&T also argued that the Verizon NJ NRCM included a much higher rate of order fallout than is appropriate for a forward-looking study. (Id. at 189). AT&T then pointed to the TISOC, the RCCC and the MLAC as examples of what it contended were unjustified levels of fallout resulting from the efficient use of OSS. (Id. at 189-190). AT&T contended that Verizon NJ inappropriately included multiple layers of fallout in the use of its occurrence factors adjustments used in its studies. (ibid.).

### 3. Study Time Horizon

#### Verizon NJ Position

Verizon NJ claimed that its NRCM utilized “current work activity time estimates and current occurrence factors to determine the amount of time required to fulfill a request for a particular non-recurring service.” (VNJb at 157). Verizon NJ explained that experts with continuing on the job experience in providing the service and knowledge of planned technology improvements reviewed the estimates and determined the extent to which forward-looking technology, planned to take place, can be expected to reduce the occurrence of particular work activities or reduce the amount of time required to conduct a particular work activity. (*Ibid.*). Verizon NJ further claimed that its NRCM used a study time horizon over which all of the firm’s costs are variable, which is thus consistent with the FCC definition of the long run, and that the parties did not dispute this description of the “horizon.” (*Ibid.*; VNJrb at 136). VNJ explained that there was no specific period of time around which it built its study of non-recurring costs, and in making forward-looking estimates, it claimed that it utilized the most advanced technology that it planned to use. (VNJb at 157). The horizon used for labor rates was 2 years and that for disconnect costs was 2.5 years. (VNJb at 157 n. 548).

According to Verizon NJ, AT&T’s argument that VNJ improperly used an indefinite time horizon mischaracterized the Verizon NJ NRCM. (VNJrb at 136). Verizon NJ refuted AT&T’s position by explaining that “Verizon NJ consistently utilizes the most advanced methods and practices developed by its engineers for use in the foreseeable future.” (*Ibid.*). Verizon NJ further claimed that there was nothing indeterminate about its NRCM and that none of the studies presented in this case labeled its horizon with a specific number of years or months. (*Id.* at 137). Verizon NJ supported this argument by explaining that the:

use of a two-year levelized labor rate does not in any sense imply that the Verizon NJ NRCM forecasts the actual condition of its network two years from the date of the study in terms of methods and practices or that it bases its work times or occurrence factors on such a snapshot. A levelization over a two-year period is standard, and in view of the periodic renegotiations of Verizon NJ’s union contracts, represents the most accurate assessment Verizon NJ can make of the cost to perform a particular unit of work.

[Ibid.]

Verizon NJ further argued that had it levelized its labor rate over a greater time period, not only would the costs be much higher than those appearing in its NRCM, but the costs would be “sheer speculation.” (Id. at 137-138).

### **Advocate Position**

The Advocate argued that the time horizon used in the Verizon NJ NRCM of two to four years depending on the input or assumption are too short and must be adjusted for a long-run time horizon in order to comply with TELRIC. (Ab at 96). According to the Advocate, because Verizon NJ used an inappropriate time horizon in its study, all of the rates generated by the Verizon NJ NRCM are suspect. (Id. at 97).

### **AT&T Position**

AT&T argued that ‘long run’ in the context of ‘long run incremental cost’ refers to a period long enough so that all of a firm’s costs become variable or avoidable.” (AT&Tb at 190). AT&T explained that its NRCM conforms to TELRIC methodology by assuming the most efficient network and processes technically feasible today. (AT&Tb at 191). It asserted that VNJ’s Nonrecurring Cost Model on the other hand is based upon its embedded network and processes with adjustments made based upon some efficiencies and improvements it foresees occurring in the indeterminate future. (Ibid.). AT&T argued that Verizon NJ thus improperly based its model on an indefinite time horizon starting with its existing network and that its NRCM is therefore not TELRIC compliant. (Ibid.).

## **4. New Lines, Conversion and Migration**

### **Verizon NJ Position**

Verizon NJ argued that its NRCM’s treatment of the principal types of orders for UNEs received by VNJ from CLECs, including new lines (new end users or new additional lines from end users that are CLEC customers), conversions or hotcuts or coordinated cutovers (transfers of working

loops from VNJ to the CLEC or from CLEC to CLEC), and migrations (UNE platform exchanges), is based upon costs that will have to be incurred in the forward-looking environment to provide adequate service quality to end users. (VNJb at 158). According to Verizon NJ, with regard to new lines, its NRCM includes time for those services necessitating design work because all design services have special transmission characteristics that require engineering. (Ibid.). In addition, Verizon NJ explained that a hotcut is a “physical loop transfer from Verizon NJ to the CLEC including the rewiring of new cross-connections and coordination of all parties throughout the various cutover steps as well as at the time of the cutover”, and, thus, requires coordination and interaction of the RCCC in the forward-looking future. (Id. at 159). VNJ, therefore, contended that AT&T improperly removed RCCC costs, notwithstanding that it relies upon the RCCC. (Id.). Verizon NJ criticized the AT&T NRCM as proposing non-recurring charges for the new UNE loop, the new UNE-P and UNE-P migration which have no basis in reality. (VNJrb at 138). With respect to the new UNE loop, Verizon NJ argued that AT&T’s proposed charges ignore the work of the TISOC, the role of the RCCC, the activity of the MLAC, the necessary CO Frame activity, and field installation costs. (Id. at 138-140). With respect to the new UNE-P cost, Verizon NJ claimed that AT&T’s proposed cost was “preposterously low,” representing less than one percent of Verizon NJ’s actual forward-looking cost, because it did not account for the necessary TISOC activity and the other costs incurred in providing a new 2-wire loop. (Id. at 140). With respect to the UNE-P migration cost, Verizon NJ argued that AT&T’s proposed cost ignored the necessary TISOC cost and the cost to “perform a manual translation change on the service, an event that, even in the forward-looking environment, will occur.” (Id. at 140). According to Verizon NJ, AT&T’s UNE-P migration cost represented only about 5% of its actual forward-looking costs for UNE-P conversion. (Id. at 139-140). Verizon further argued that:

it is appropriate to include disconnection costs as part of the NRCs recoverable at the time of provisioning. Similarly, it is appropriate to include both a manual surcharge, for those tasks which may be performed electronically but with respect to which CLECs have requested manual service. It is also appropriate to include additional charges for expedited provisioning, which include the costs for premium wage rates for work outside normal work shifts. No other model or “set of adjusted rates” provides for requested manual service order processing or expedited provisioning.

[VNJrb at 141.]

### **Advocate Position**

The Advocate argued that the Verizon NJ NRCM improperly includes disconnection charges in its non-recurring charges for the installation of new UNEs. (Ab at 97). The Advocate recommended that the Board sever the cost of disconnection from the installation non-recurring rate and establish its own separate non-recurring rate. (Ibid.). The Advocate further argued that maintenance and repair costs should not be recovered through non-recurring charges. (Id. at 98-99). The Advocate also claimed that Verizon NJ's proposed rates for conversions and migrations were inflated due to the complex processes assumed by Verizon NJ to complete the conversions and migrations, rather than forward-looking methods, and its failure to assume 100% GR-303 equipment. (Id. at 99-100). The Advocate urged that the Board reject VNJ's proposed conversion rate and instead adopt a \$.30 rate. (Id. at 100).

### **AT&T Position**

According to AT&T, “[o]ne of the principal differences between the [AT&T] NRCM and VNJ’s model is that the [AT&T] NRCM does not reflect a cost of sending technicians to the field to make cross-connections at the feeder-distribution interface.” (AT&Tb at 191). AT&T explained that in its opinion “[t]hese costs are properly not part of the NRCM because: (1) the cost of making these connections should be included in the recurring unbundled loop rates established by the Board; and (2) the forward-looking engineering practice followed by VNJ and other telephone companies is to make these connections at the time the loop plant is laid, rather than making multiple trips to the field to connect up individual loops one at a time each time a service order is received.” (Id. at 191-192).

AT&T also argued that, with respect to migration, the AT&T NRCM should be adopted by the Board because it reflects the activity that must occur in order for a migration to take place and accounts for differences in the migration from copper feeder and fiber feeder. (Id. at 192). Additionally, AT&T claimed that its NRCM develops the cost of migrating a customer to a CLEC service using the UNE-P method of service delivery more accurately than Verizon NJ’s method because such activities require no physical provisioning and will therefore automatically navigate through Verizon NJ’s OSS electronically. (Id. at 193).

## **WorldCom Position**

WorldCom argued that given that only “a few simple key strokes” are involved, the charges for migration and conversion of UNE platform orders contained in the Verizon NRCM were overstated. (WCb at 55-56). According to WorldCom:

VNJ has testified that they use “whatever facilities” they already have in place to serve UNE-P customers, and that “UNE-P by definition does not need any work, it’s an existing loop, an existing port that just needs an electronic transfer to make it happen.” Yet, VNJ insists on charging competitors an NRC that cannot possible [sic] reflect a “simple electronic transfer.” VNJ should be required to revise its NRCM to reflect that the conversion/migration of a UNE-P customer only requires a relatively simple computer change.

[Id. at 56 (footnotes omitted)].

WorldCom noted that in contrast to VNJ’s proposed rates in this proceeding, when VNJ filed its compliance filing on UNE-P charges, it proposed a rate of \$.30 for conversion/migration of a UNE-P. WorldCom asserted that this charge seems more appropriate for the work required for the conversion. (Ibid.).

## **5. Appropriate Methods to Estimate Time Required to Perform Required Work Functions**

### **Verizon NJ Position**

Verizon NJ argued that its “studies begin with a documented base of work times and occurrence probabilities, and reflect the full impact of all planned mechanization efforts and improvements.” (VNJrb at 142). Verizon NJ further stated that “[r]eflecting the planned differences between the current and future state of the network, the costs in Verizon NJ’s studies are significantly, even dramatically, below Verizon NJ’s current costs.” (Ibid.). Verizon NJ explained the multi-step process it used to determine the amount of time that would be required to perform each of the work activities involved in processing UNEs and argued that the goal of its process was to determine how much time a specific work activity should take in the forward-looking environment. (VNJb at 169). Verizon NJ explained that it determined how much time a specific

work activity should take in a forward-looking environment by utilizing surveys of the organizations responsible for the provisioning of wholesale service to obtain the average work time actually required to complete the activities necessary for each of the UNEs considered; averaging the surveys to provide an average time for each activity; obtaining occurrence factors from supervisors for each work activity time that had been averaged and adjusted; and reviewing the estimates, which review was performed by a panel of subject matter experts, for current reasonableness and application of forward-looking adjustments. (Id. at 166-168). Verizon NJ argued that because a “credible cost study must begin with the way things are in order to estimate how things should be,” it properly began its study with the estimates of actual times. (Id. at 169).

Verizon NJ rebutted attacks on the integrity of its surveys and argued that statisticians validated the survey process for accuracy, and a panel of experts critically reviewed the results. (VNJrb at 143). Verizon NJ also refuted claims by the Advocate, WorldCom and Covad that its study was flawed because it did not systematically eliminate the high and low estimates from its survey results. (Id. at 144). According to Verizon-NJ, the parties implied that the inclusion of extreme high and low estimates had the effect of increasing time estimates and costs (Ibid.; VNJb at 171). However, Verizon NJ asserted that extreme outliers were eliminated from its survey data, but no systematic effort was made to eliminate other results because a judgment was made that to do so would be to prejudge what is or is not an appropriate response. (VNJrb at 144). The RPA and Covad also recommended that a more appropriate method to estimate activity times would have been to use median times instead of average times. In response, VNJ averred that in the future, its “costs will not be based on an abstract median of its employees’ performances but ... a direct function of the times that ... [its] employees ... will take to perform tasks.” In addition, Verizon NJ maintained that Covad’s work times were unsupported and its criticisms were inaccurate. (Ibid.). In response to criticisms levied by WorldCom that the use of survey data from states other than New Jersey is problematic, Verizon NJ maintained that the time estimates included in its study were from New York, Rhode Island, Delaware and New Jersey, which were “broadly representative of New Jersey and, even more importantly, provide a broader survey base.” (VNJb at 170).

In response to AT&T’s allegations regarding VNJ’s surveys being unreliable, Verizon NJ stated that AT&T’s criticisms were disturbing because they implied that lower level employees would falsify survey documents in order to inflate the complexity of their jobs. The Company further

argued that AT&T's contentions were wrong because, if anything, the employees would more than likely want to be perceived as more efficient than they actually are, and thus estimate shorter times, resulting in lower costs. (VNJrb at 142) VNJ further noted that its survey instructions clearly emphasized the need to provide reliable and independent time estimates and specifically did not require that respondents identify themselves to ensure unbiased responses. (Ibid.)

Verizon NJ further contended that the criticisms of its time estimation procedures are misleading, because they "imply that there exists somewhere a clear cut, objective set of forward-looking work times that Verizon NJ is failing to reveal to this Board." (VNJrb at 146). Verizon NJ noted that "[t]here is no such set of hypothetical numbers; rather, there are only rational and consistent methodologies designed to estimate the time that it will take the [c]ompany's people to perform tasks in a future that takes advantage of the best technology the company has plans to use." (Ibid.). Verizon NJ asserted that it devised, implemented and presented such a methodology through "great pains and expense." (Ibid.). Verizon NJ also argued that although parties' criticisms suggested that instead of VNJ's survey methods and results, work time estimates should be implemented, those estimates developed by other parties did not provide support upon which the Board could make a rationally based decision. (Ibid.). Verizon NJ argued that "not one of the other competitive carriers took the time to do any kind of empirical study of non-recurring costs," "had sufficient respect for the reality of the UNE provisioning process to look at the experience of the people who actually do the work," or "offered anything to this Board beyond a series of pontifications about other people's jobs or ivory tower thought experiments that never touch the work group or the field." (Ibid.). Verizon NJ further argued that it alone had adhered to the Board's order to produce non-recurring costs subject to objective scrutiny. (Ibid.).

### **Advocate Position**

The Advocate argued that the Board should reject Verizon NJ's survey, as designed and implemented, because it was "incapable of providing valid inputs for a TELRIC-compliant nonrecurring cost study." (Ab at 105; Arb at 42). According to the Advocate, the survey consisted of the following flaws: (1) it is "less than [an] ideal method to obtain time estimates for work functions"; (2) it "deal[s] with existing tasks in the existing network"; (3) it did not have clear instructions; (4) it lacked "third party statistical validation"; (5) it did not exclude "outliers . .

. from the survey results”; (6) it had built in upward biases due to, among other things, the “tendency of survey respondents to overestimate the time required for an activity when it is broken up into a series of small actions”; and (7) it utilized “the average work time rather than the median work time.” (Ab at 100-103). Additionally, the Advocate argued the survey should be rejected because Verizon NJ did not provide a witness that could properly sponsor it. (Id. at 104-105).

### **AT&T Position**

According to AT&T, Verizon NJ's survey process underlying its rate proposal “suffered from several major shortcomings.” (AT&Tb at 194). As an initial matter, AT&T argued that the “survey cannot be relied upon” because “any employee filling out such a survey will have a natural human inclination to over-state work times so as to inflate his/her importance and to inflate the complexity of one’s job.” (Ibid.). AT&T further contended that “[t]he survey methodology is simply not a reliable indicator of forward-looking task times” because it “required respondents to estimate task times based on embedded processes, not forward-looking processes.” (Ibid.). AT&T explained that “VNJ’s survey form instructions excluded many forward-looking efficiencies” and in fact “directed the respondents to ignore planned process improvements unless specifically instructed to reflect certain specifically defined forward-looking circumstances.” (Ibid.).

AT&T also pointed to other facts related to the survey that it believed would lead to overstated task-times. According to AT&T, “[t]wice on the first page of the survey instructions, employees are advised that the results will be used to establish the rates VNJ will charge its competitors.” (Ibid., citing VNJ-8 (Meacham Direct) at Exh. K). In addition, AT&T noted that a memorandum sent to the management team in charge of the survey completion “urged company loyalty,” stating that inadequate survey data jeopardizes our ability to recover our costs and strengthens the positions of our opponents (AT&T, MCI WorldCom, Sprint, etc.)” (Id., citing Exh. J).

Responding to VNJ’s criticism that its model lacked documentation validating its costs and activity times, AT&T argued that its witness Walsh had conducted videotaped timed activity studies which validated the activity times in AT&T’s model and that these materials had been made available to VNJ in discovery (AT&Trb at 102).

### **Covad Position**

Covad argued that the Board should reject the Verizon NJ labor times for various provisioning tasks because, it alleged, they were inflated. (COVb at 4-6). Covad also argued that the Board should adopt its proposed non-recurring rates for xDSL loops in lieu of Verizon NJ's proposed non-recurring rates because, it asserted, that its rates "more credibly take into account forward-looking efficiencies." (Id. at 6).

### **WorldCom Position**

WorldCom argued that the Board could not be "certain that the task times provided by VNJ are reliable or that they reflect the times that would be associated with an efficient carrier." (Id. at 52). Specifically, WorldCom claimed that Verizon NJ's use of surveys to elicit time estimates, rather than time and motion studies, should concern the Board because the "use of [the] survey results allows for a great deal of interpretation on the part of the participants." (Id. at 51).

WorldCom assailed VNJ for using surveys that included data from the entire Verizon NJ footprint as opposed to New Jersey specific data. (WCb at 51) Additionally, WorldCom claimed that the survey results were not validated, and they were averaged without accounting for outliers. (Id. at 52). WorldCom, therefore, asserted that the Board could not be certain that the task times are reliable or reflective of an efficient carrier. (Ibid.).

### **Board Discussion – Non-Recurring Costs**

After carefully reviewing the record and the parties' positions, the Board ADOPTS the Verizon NJ Non-Recurring Cost Model with modifications set forth below, to establish non-recurring rates. While the two models submitted in the case were similar in their approach, i.e., both attempted to estimate the expected time and occurrence of an event multiplied by an assumed labor rate, the AT&T NRCM identified far fewer rate elements than the Verizon NJ Model and assumed away a number of potential costs on the premise that they should have been included as part of recurring costs and/or are unnecessary in a forward-looking environment due to mechanized improvements. Functionally, the two models operate in a similar fashion and with suitable modifications both could conceivably be used to arrive at appropriate forward-looking

non-recurring rates associated with the provision of UNEs. Even though both models arrived at their time estimates differently, the data points in both models can be changed to accommodate any modifications the Board determines to be appropriate for each rate being modeled.

We base our decision to adopt the Verizon NJ NRCM not on any specific defects exposed in our review of the models. Rather, it is based on an acknowledgement that it would be far more expedient to adjust the inputs and assumptions in the Verizon NJ NRCM, which modeled over 170 potential rate elements, than to “build” new rate elements for costs which are appropriately non-recurring costs, and to adjust other inputs and assumptions in the AT&T NRCM, which examined only an approximate 50 potential rate elements. We also note that in the event that the Board were to agree with parties who have contended that certain rate elements included in the Verizon NJ NRCM are not properly non-recurring, those elements could easily be removed from the Verizon NJ NRCM. As will be seen from our discussion below, however, while we have determined that certain rates should be made optional, we have not found that any of the VNJ non-recurring costs are not properly treated as such. In addition, the AT&T NRCM assumes that disconnect charges are not incurred and should not be charged until the disconnection of service actually occurs, an assumption which we reject for reasons discussed below. However, while adopting the Verizon NJ NRCM, we also are concerned with some aspects of it due to Verizon NJ’s interjection of many unnecessary manual steps, such as retyping orders, into the processing of orders and unrealistic time estimates throughout its model. Of particular concern, is Verizon NJ’s use of self-administered surveys, which clearly produced biased results as evidenced by the variations in estimates from one survey to another. Since the surveys form the basis for the overall time estimates which are a key driver of the NRCs, unreliable or unrealistic estimates have the effect of improperly modeling the costs. In the discussion that follows, the Board addresses its specific concerns in the appropriate sections and makes suitable modifications as necessary to ensure that the output from the study produces proper forward-looking results based upon TELRIC principles. While we found it necessary to make numerous adjustments to Verizon NJ’s Model to correct the inherent deficiencies, due to the enormity and complexity of the study, our re-calculation of specific rates was limited to the following NRC rate elements:

1. Two-Wire New Loops-Initial;
2. Two -Wire New Loops-Additional;
3. Two-Wire Loop Hot Cut-Initial Line;

4. Two-Wire Loop Hot Cut-Additional;
5. POTS/ISDN BRI Platform-Migration-Initial Line;
6. POTS/ISDN BRI Platform-Migration-Additional;
7. POTS/ISDN BRI Platform-New Line, and
8. POTS/ISDN BRI Platform-New Additional Line.

For each rate element, Verizon NJ developed costs for the following categories: 1) service order, 2) C.O. wiring, 3) provisioning, and 4) field installation. Each of the categories was comprised of both a standard interval and an expedited interval. The Company also proposed a fifth category called a manual surcharge. The manual surcharge would only apply in the event that a CLEC did not want to use the mechanized system.

Based upon our review of the Verizon NJ studies, the Company first estimated the current time required to perform a task. It then adjusted the number by applying two adjustments, one called a “typical occurrence factor” (“TOF”) and the other called a “forward-looking adjustment” before multiplying the results by a labor rate. In revising the eight rates contained above, we analyzed the individual work activities for each rate and made appropriate adjustments by category to the tasks. The following discussion outlines the changes that we made and the rationale behind those changes. Where appropriate, the mix of DLC systems was adjusted to be consistent with the assumptions recommended previously for use in the recurring cost model.

#### Service Order

For the rate elements 1-4 above (two-wire loops), we applied the same forward looking adjustments to the all two-wire loops as were included in rate elements 5 – 8 for platform orders. Our review of the work activities for two-wire loops and platform orders revealed that platform orders were assumed to flow through the ordering process with minimal intervention. In making these adjustments, we concluded that Verizon NJ failed to explain why the same efficiencies for platform orders should not be achieved for two-wire loops on a forward-looking basis. Based on the recent advances in Verizon NJ's OSS, there is no reason that two-wire loop orders should be handled any differently than platform orders.

### **C.O. Wiring**

In reviewing the tasks associated with C.O. wiring for the initial lines for both two-wire loops and platform orders, we discovered that in some instances, the times allocated to tasks for additional lines were less than the times assumed for the initial lines. There are numerous instances where VNJ, with no other support than its surveys, determined that activities associated with additional lines require more time than the work performed for the initial line. In those instances, we applied the lower, although marginal, time estimates for the task. In addition, consistent with AT&T's recommendation, we lowered the travel time estimates to 20 minutes in recognition that Verizon NJ's original estimates not only appeared to be unreasonably high, but also failed to account for multiple jobs being performed at the same site. We also adjusted those activities that required time estimates for access to a database for additional lines. In its study, Verizon NJ unreasonably assumed that both initial and additional lines would require separate database activity. We would expect that on a forward-looking basis those activities could be performed in the time already allotted for the initial line. As such, we eliminated the times assigned to additional lines for database access in recognition that the task should be performed within the allotted time included for the initial line.

### **Provisioning**

As discussed above in the section on C.O. wiring, we revised all time estimates for additional lines that were found to be greater than the initial line to reflect the lower time estimates assumed for the initial lines. In addition, the connect typical occurrence for access to the WFA/C for additional lines was eliminated reduced to zero reflecting that the task should be performed within the allotted time included for the initial line. Similar to accessing databases for C.O. wiring, we concluded that the Company failed to properly consider the effects of the deployment of OSS on ordering, processing and provisioning. While it is difficult to quantify the exact impact of the OSS, it is reasonable to expect that electronic processing will become more prevalent on a forward-looking basis. Following that same logic, we eliminated all manual translation times for UNE-P orders in recognition that such manual intervention should not be necessary in a forward-looking environment. A key feature of modernized OSS is its ability to process orders with little or no manual intervention. For that reason, we conclude that manual translations for these rate elements are improper in a forward-looking environment.

### **Field Installation**

Field installation costs are calculated as part of rate elements 1 – 4 above (two-wire loops) and affect 36 different NRCs. However, they only apply when a field visit is required.

As an initial matter, we reject all field installation charges for UNE-P migration orders. By definition a migration means an existing ILEC or CLEC line that is converted to another CLEC. As such, no fieldwork should ever be required because the line is already in use.

In addition we found it necessary to reduce certain times associated with the tasks involved in field installations. According to Verizon NJ's study, a single field installation would require almost three hours to accomplish, which included, for example, unreasonably high estimates of time required to gain access to a customer's premises and then to locate a terminal feeding the premises. Based upon Verizon NJ's estimate, a technician would only be able to perform about three complete field installations in an eight hour day. We are unconvinced that Verizon NJ's estimates are reasonable and forward-looking. As such, we revised the tasks with what we believed to be more reasonable estimates that permitted a technician to perform on average five jobs per day.

As to other NRC rate elements, these are addressed further below.

### **Relationship Of Non-Recurring Cost Model To Recurring Cost Model**

As an initial matter, the Board **FINDS** that based upon the rationale developed earlier in our discussion on recurring cost models, the NRCM must include and be consistent with, the Board's findings therein for all inputs and the associated assumptions which are common to both models, e.g., revisions to depreciation, cost of capital, digital loop carrier, etc. It is our belief that a properly constructed forward-looking TELRIC study must include consistent inputs and assumptions across all models, so as not to create distortions that may effect the calculated costs.

In addition, we disagree with both AT&T and the Advocate who argue that VNJ seeks to charge CLECs non-recurring charges for costs that should be classified as capital costs and recovered

in recurring rates. According to the Advocate and AT&T, any activity that might benefit a future customer, should not be recovered in non-recurring rates. As an example, AT&T cites the placement of cross-connects at a feeder distribution interface. We cannot dismiss the fact that the activity for which VNJ seeks to charge is the direct result of a request by the CLEC for the provision of service and would otherwise not be incurred by VNJ. The Board concludes that Verizon NJ is entitled to charge CLECs for actual work performed.

### **Verizon NJ NRCM Assumptions and Approach**

After having thoroughly reviewed the Verizon NJ NRCM, the Board found above that the Verizon NJ NRCM should be adopted as the starting point for analyzing the one-time costs to Verizon NJ for providing UNEs to CLECs requesting initiation, change or disconnection of service. The Verizon NJ NRCM develops costs for 118 generic UNEs as well as 54 additional surrogates that are mapped to those generic UNEs. The Board **FINDS** that the methodology employed by Verizon NJ, after the modifications specified herein are taken into account, is sound, in that it makes reasonable estimates of the time currently taken for each work activity. However, based upon our analysis of the Verizon NJ methodology, we directed the Company by Board Secretary letter issued on November 20, 2001, to make changes to the following cost categories for each of the rates not specifically modified by the Board above:

1. Service Order;
2. C.O. Wiring;
3. Provisioning, and
4. Field Installation.

The eight changes below are general guidelines that we developed based upon our analysis of the work activities associated with the eight NRC elements already set by the Board in the preceding discussion, wherein we concluded that it was essential to modify the work times to ensure that they were TELRIC compliant. In order to ensure that all other NRC rate elements are also TELRIC compliant, we directed the Company by the Secretary letter issued on November 20, 2001 to apply the following guidelines to all other NRC rate elements not specifically modified by the Board.

1. Revise all travel times to 20 minutes;
2. Adjust the time estimates for all additional lines to be equal to the time associated with initial lines where the additional line is greater;
3. Eliminate all computer connect times for additional lines in recognition that the tasks for the initial and additional lines will be performed within the allotted time for the initial line;
4. Eliminate all times associated with notifying a CLEC to complete an order in recognition that the tasks for the initial and additional lines will be performed within the allotted time for the initial line;
5. Eliminate all times associated with scheduling teams, contacting CLEC, verifying service orders, obtaining CLEC approval, completing orders, and notifying team of cancellations for all additional lines in recognition that the tasks for the initial and additional lines will be performed within the allotted time for the initial line;
6. Revise all times associated with gaining access to a premises, locating terminal, contacting MLAC and working with frame or RCCC to 5 minutes;
7. Eliminate all field installation charges associated with migration orders; and,
8. Eliminate all manual translation times that are made obsolete by the flow through capabilities of Verizon's operations support systems.

In addition, based upon the record, the Board further **FINDS** that disconnection costs are appropriately recovered "up front." The immediate recovery of non-recurring disconnection costs is a standard practice in the telecommunications industry, because once a service has been disconnected, it is more difficult for an ILEC to recover the costs of the disconnection. This is consistent with the Board's previous determination regarding the recovery of disconnect costs from retail customers. However, the Board further **FINDS** that the recovery of disconnection costs in the manner proposed by Verizon NJ, i.e., applying a present worth factor of 2.5 years to calculate the current value of the future cost, should be modified. We are

unconvinced that customer turnover occurs every 2.5 years and **FIND** that 5 years is a reasonable assumption.

Pursuant to the directive in the Board Secretary's November 20, 2001 letter, Verizon NJ re-ran its NRCM using the Board-approved inputs for all charges, and as set forth in December 17, 2001 Summary Order of Approval, the Board **ADOPTED** those rates effective as of the date of the Summary Order, as well as the terms and conditions set forth therein and further addressed in this Decision and Order. The non-recurring rates are set forth in the Attachments Band C to this Decision and Order.

### **Forward Looking Network Assumptions**

#### **Copper/IDLC Mix**

In accordance with the revisions ordered by the Board regarding the Recurring Cost Model, we **FIND** that it is appropriate to include the same forward-looking mix of integrated digital loop carrier in the NRCM as was used in the Recurring Cost Model. As previously discussed, it is necessary to assume consistency across all models so as not to create market distortions between recurring and non-recurring costs. Inconsistent assumptions would surely raise questions whether either or both studies were actually TELRIC-compliant.

#### **Dedicated Plant Assumptions**

The Board **FINDS** that Verizon NJ was correct in rejecting assumptions by other parties of 100% dedicated inside plant ("DIP") and 100% dedicated outside plant ("DOP"). In a forward-looking network environment that has been ordered to include subloops, and given current technology and the need for switch load balancing, it is not technically feasible to maintain dedicated inside facilities in switching equipment.

#### **Role Of OSS**

The CLECs and the Advocate generally argued that Verizon NJ has failed to capture the efficiencies of OSS. Verizon NJ, on the other hand, argued that its study correctly reviewed the current time to perform each task associated with the provision of unbundled elements and which are adjusted through a series of factors to determine the impact of OSS and

mechanization on future costs. It averred that it was correct in reducing, but not eliminating, manual intervention because it is unrealistic to assume that manual intervention will disappear in the future.

We agree with the Advocate and the CLECs that Verizon NJ's NRCM failed to properly consider OSS improvements. In our review of VNJ's study, we found it necessary to modify the study to eliminate specific inefficiencies uncovered in Verizon's methodology. Those adjusted are addressed in the Board's modifications articulated above.

### **Fallout Rates**

The actual fallout rate assumed by Verizon NJ in its model only explicitly impacts a limited number of areas in the Verizon NJ NRCM. However, many of Verizon NJ's assumptions, through the use of forward-looking adjustment factors and typical occurrence rates, have the effect of mimicking fallout by limiting flow-through ordering capabilities. In this section we will deal exclusively with fallout as used in the Verizon NRCM. The indirect effects of fallout have already been addressed in the appropriate sections through appropriate changes to VNJ's forward-looking adjustments.

As to Verizon NJ's proposed fallout rate, even in the most sophisticated systems, the record has demonstrated that fallout will occur. Other parties have urged the Board to adopt a 2% fallout rate, but there has been no credible evidence submitted to support such a rate. The only evidence submitted to justify an overall 2% fallout rate is the fallout rate experienced in the EASE system used by Southwestern Bell Telephone ("SWBT"). Verizon NJ, however, demonstrated that the 2% fallout rate experienced by SWBT is inapplicable outside a limited residential retail context which only applied to the service order function. (VNJb at 150). Accordingly, the Board **FINDS** that the Verizon NJ fallout rates assumed for each work center are credible and hereby **ADOPTS** those fallout rates as they are reflected in the Verizon NJ NRCM.

### **Study Time Horizon**

According to Verizon NJ, its NRCM utilized a study time horizon over which all costs are variable, and thus consistent with the FCC definition of long-run costs. Verizon NJ reviewed all

current time estimates and occurrence estimates in order to determine the extent to which planned forward-looking technology could be expected to reduce the occurrence of particular work activities or the time required to conduct particular work activities. In making its forward-looking estimates, Verizon NJ utilized what it believed to be the most advanced methods and practices developed by its engineers for use in the foreseeable future. We dismiss arguments espoused by AT&T that suggested that VNJ's study relied on an inappropriate a time period. In modifying VNJ's study, the Board was careful to ensure that the resulting rates produced forward-looking TELRIC compliant rates. Based upon the record, the Board **FINDS** that the Verizon NJ NRCM study, as modified herein, results in an appropriate time horizon whereby all the costs are variable, resulting in a forward-looking assessment of NRCs.

### **New Lines, Conversion and Migration**

As a general matter, VNJ argued that its cost study properly reflected the costs associated with new lines, conversions and migrations. According to the Company, its NRCM included properly reflected times and tasks necessary to provision the requested services and to provide adequate service quality to its customers. The Advocate and AT&T, on the other hand, assailed Verizon NJ for injecting unnecessary steps and manual activities when such tasks can be performed electronically. In reviewing the positions of the parties, we shared many of the Advocate and AT&T's concerns and have already addressed their concerns through our modifications to the Verizon NJ NRCM.

### **Appropriate Methods to Estimate Time**

With regard to Verizon NJ's NRCM, this parameter, i.e., the methods used to estimate the amount of time to perform a given task, was one of the most contentious issues related to the NRCMs. The CLECs and the Advocate collectively attacked Verizon NJ's use of self-administered surveys as being biased, arbitrary and unreliable. We agree. Verizon NJ plainly failed to evaluate the quality of the surveys received from its technicians and managers, even though it alleged the surveys were reviewed by a panel of experts and statistically verified. Based upon the record, the parties presented credible evidence revealing significant variations in estimates from one survey to another. For example, one respondent to the survey with 10 years experience estimated that it would take 10 minutes to "Identify and Open the Splice

Case,” while another, with 30 years experience estimated that it would take 45 minutes. The same respondents when asked how long it would take to “Build Work Operations in ECRIC” replied 0 minutes and 30 minutes. When asked how long it would take to “Pump Manhole if Necessary,” the technician with 10 years experience replied, 25 minutes, where the technician with 30 years experience replied 90 minutes. Clearly, the responses should have raised a “red flag.” There are numerous other instances where such extreme variations exist. Based upon the survey results and the variations uncovered, it would be imprudent to rely entirely on Verizon NJ’s surveys. (See AT&T Exh. 72). In our analysis of the resulting time estimates, we found it necessary to make numerous adjustments to VNJ’s model to correct for the deficiencies in the time estimates. Those revisions are included in the appropriate sections of our discussion above.

## **V. OTHER ISSUES**

### **A. DSL**

#### **Statement of the Issue**

The Board will need to decide several technical, policy and rate issues related to Digital Subscriber Line ("DSL") Service. Since there are several interrelated issues associated with the provision of DSL, the following sections will look at each of the items individually in terms of the positions of the parties. Rates will only be discussed as a general matter focusing on their appropriateness rather than magnitude. Actual rates are developed in the appropriate model.

Digital Subscriber Line Service, or as it is more generally referred to as xDSL, where the x is a variable for the various forms of DSL service that are available, permits the transmission of high-speed digital data over traditional plain old telephone service ("POTS") lines. It is unique in that the data is transmitted using the high frequency (above 4kHz) portion of the POTS line without interfering with the low frequency (0 to 4 kHz) portion of the loop. Therefore, a line can be used by the customer for voice service, as well as to connect to the Internet at the same time. VNJ has proposed that Asymmetric Digital Subscriber Line Service ("ADSL") be made available for 2-wire compatible loops and High-Bit-Rate Digital Subscriber Line Service ("HDSL") for 4-wire compatible loops. No individual recurring rate is being proposed for DSL loops in recognition that it is same line that is used for voice-grade service, and therefore, there is no incremental cost associated with the line itself. However, issues regarding xDSL are integrally tied to such issues as line conditioning, loop qualification, line sharing, line splitting, wideband testing, and cooperative testing.

#### **Positions of the Parties**

##### **1. Rates**

As noted above, VNJ has proposed that the recurring rate to be used for a dedicated or stand-alone DSL loop be the same rate for a standard 2-wire or 4-wire loop. (VNJb at 174). No party disputed the use of the rates currently in effect. Verizon NJ noted, however, that if it "determines, at some future time, that it should recover incremental loop costs from a line

sharing CLEC, it will make a proposal to the CLEC, subject to the Board's review." (VNJb at 183).

## **2. Line Sharing**

### **Verizon NJ Position**

Verizon NJ explained that "[s]ome versions of xDSL can be provided simultaneously with analog voice service over a copper loop," while "[o]ther forms of xDSL require use of the entire loop on a dedicated basis." (*Ibid.*). Verizon NJ stated that it presently offers line sharing, a service in which the CLEC shares the loop over which Verizon NJ is already providing voice service, with the CLEC providing data service over the high frequency portion of that same loop, at no charge to the CLEC. (*Ibid.*). Although the Company is not proposing a separate charge for access to the high frequency portion of the loop, there are related services associated with line sharing for which Verizon NJ is proposing charges. They include Wideband Testing, Cooperative Testing, Splitter Installation, Splitter Administration and Support, Splitter Equipment Support, Line and Station Transfer, Service Order and Installation Processing, Collocation, and OSS. Each of these items are discussed in the appropriate section of this Order.

Within the framework of the line sharing requirements, Verizon NJ argued that it has seven conditions for its line sharing UNE offering, which are reasonable and consistent with the FCC's line sharing definition and requirements.<sup>30</sup> (*Id.* at 183-184). Verizon NJ explained that the first three conditions pursuant to which it makes the line sharing UNE available are grounded in the FCC's definition of "line sharing" as "the provision of xDSL-based service by a competitive LEC and voiceband service by an incumbent LEC on the same loop."<sup>31</sup> (VNJb at 184). "Based on this definition, Verizon NJ offers line sharing on these three conditions: (1) Verizon NJ's line sharing UNE is made available where Verizon NJ provides the analog voice service on the same loop, (2) loops not utilized for analog voiceband services are not to be shared, and (3) Verizon NJ shares the loop with only one CLEC." (*Ibid.*). VNJ's remaining four line sharing conditions are that: (4) "Verizon NJ's line sharing service is not available in conjunction with Platform or EEL arrangements" because "the CLEC rather than the ILEC is providing the voice service," (5) "upon termination of Verizon NJ voice service, and in certain circumstances, a

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<sup>30</sup> Third Report and Order in CC Docket No. 98-147, Fourth Report and Order in CC Docket No. 96-98, Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, 14 FCC Rcd 20912 (rel. Dec. 9, 1999 ("Line Sharing Order"); and Third Report and Order on Reconsideration in CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket No. 96-98, Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147, Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, FCC 01-26 (rel. Jan. 19, 2001 ("Line Sharing Reconsideration Order").

<sup>31</sup> Line Sharing Reconsideration Order at ¶5.

CLEC subscribing to Verizon NJ's line sharing service has the option of either disconnecting service or purchasing the entire unbundled loop to continue providing DSL service,” (6) Verizon NJ “will provide requesting CLECs with loop access either through a cross-connection at the CLEC’s collocation arrangement, or through a standardized interface designed to provide physical access for testing, maintenance and repair activities,” and (7) “the CLEC’s DSL service must not interfere with the analog voiceband transmission.” (*Id.* at 184-187). Verizon NJ refuted CLEC claims that it has an obligation to allow line sharing on a line on which it is no longer providing voice service. (VNJrb at 166). This issue is discussed further under “line splitting.”

### **AT&T Position**

AT&T argued that the Board should “ensure that CLECs will be able to deploy emerging xDSL technologies and other advanced service technologies on shared loops with POTS.” (AT&Tb at 195). AT&T described line sharing as “the provision of xDSL service by a CLEC and voice service by an ILEC over the same loop.” (*Id.* at 204). Its position on line splitting, which it terms is “a variant of line sharing” (AT&Tb at 204), is discussed below.

## **3. Line Splitting**

### **Verizon NJ Position**

Verizon NJ argued that it “is not required to provide line splitting, whereby one or two CLECs would share a line on which Verizon NJ is not providing any service so that the other carrier(s) can provide voice and data.” (VNJrb at 167). In support of its position, Verizon NJ cited the FCC’s statement that an ILEC is not required to “continue to provide xDSL services in the event customers choose to obtain voice service from a competing carrier on the same line.” (VNJb at 184, citing Line Sharing Reconsideration Order, ¶16). It also relied upon the FCC’s explanation that such a situation is “not technically line sharing because both the voice and data service would be provided by competing carrier(s) over a single loop. To avoid confusion, in the *Texas 271 Order*, we characterized this type of arrangement as ‘line splitting’, rather than line sharing.” (VNJb at 184-185; citing Line Sharing Reconsideration Order, ¶17). Verizon NJ asserted that in platform or EEL arrangements, “the CLEC rather than the ILEC is providing the voice service; therefore, line sharing is unavailable.” (VNJb at 185). Verizon NJ explained that, consistent with a recent New York Commission decision approving a line sharing tariff, it is only “required to

facilitate line splitting by allowing or making available the necessary ordering and provisioning methods to allow the CLEC(s) to split a line." (VNJrb at 167-169).

Verizon NJ also acknowledged that it is "required to allow any CLEC who takes the entire loop to provide voice and data over that loop to the end user, or to allow another CLEC to do so." (*Id.* at 167). Verizon argued that although these alternatives are available, "CLECs do not want to take advantage of [them]... because they complain that they come at a cost," including the costs of installing a splitter and/or Digital Subscriber Line Access Multiplexer ("DSLAM") in collocation space acquired for that purpose. (*Ibid.*). Verizon NJ claimed that the CLECs, in conflict with the FCC's stated intent, "seek to avoid these costs by imposing them on Verizon NJ." (*Ibid.*). Verizon NJ explained that "the FCC did not intend to require the ILEC to provide splitters if a CLEC sought to convert a UNE-P voice customer to a voice and data customer" and "stated that ILECs have an obligation to permit competing carriers to engage in line splitting using the UNE-platform, where the competing carrier purchases the entire loop and provides its own splitter." (*Ibid.*, citing Line Sharing Reconsideration Order, ¶19.). With regard to UNE-P, Verizon NJ further explained that "because installation of the splitter required to allow one carrier to provide voice on the loop while another carrier is providing data would have to occur in a collocation arrangement, the Platform arrangement, which by definition does not use collocation, would have to be terminated." (*Id.* at 186). With regard to AT&T's line splitting recommendation, Verizon NJ claimed that it was flawed because it is based on ILEC ownership of splitters and noted that, contrary to AT&T's claim, the issue of who owns the splitters cannot be "set aside." (VNJrb at 167 n.607).

### **Advocate Position**

The Advocate argued that the Board should order Verizon NJ "to make line splitting available to New Jersey consumers as soon as reasonably possible." (Ab at 128). The Advocate cited to the Line Sharing Reconsideration Order as "making it clear that ILECs are required to enable competing carriers to engage in line splitting." (*Ibid.*). The Advocate argued that "[w]hen line splitting is not a real alternative, Verizon NJ's voice customers who use line sharing arrangements can only choose competing voice carriers if they are willing to give up the advantages of line sharing." (*Ibid.*). The Advocate further claimed that "without line splitting customers of competitive voice carriers are denied the advantage of receiving data services over the same loop as voice services," which "deprives consumers of attractive alternatives and puts a damper on competition." (*Ibid.*). In support of its position, the Advocate claimed that "the

New York Public Service Commission anticipated the FCC's recent action and required Verizon to provide for line splitting 'as soon as practicable'." (*Ibid.*).

With regard to the issue of line splitting on UNE-P, the Advocate argued that "[p]erhaps the most important step the Board can take to insure sustainable competition through line splitting is to rule that Verizon must allow line splitting on UNE-P." (Arb at 48). The Advocate further contended that "[w]ithout line splitting on UNE-P, CLECs are at a severe, unjustified disadvantage in their efforts to compete with Verizon NJ, because they cannot provide the price savings and convenience offered by the provisioning of voice and data over a single line." (*Ibid.*). The Advocate also argued that, contrary to VNJ's claim, line splitting does not require that a CLEC "replace its UNE-P with unbundled loop and unbundled port," because the FCC's mandate "unequivocally requires an ILEC to allow voice CLECs using UNE-P to also provide data." (*Id.* at 48-49, citing Line Sharing Reconsideration Order, ¶¶16, 18, 19).

### **AT&T Position**

AT&T argued that line splitting "is a variant of line sharing," wherein "a CLEC may provide both voice and data services, either on its own or with another CLEC over the same loop." (AT&Tb at 203-204). AT&T contended that "[l]ine splitting provides perhaps the only means of competing with voice and advanced services packaged [sic] offered by ILECs as well as other significant benefits including: (1) reducing the time to provide services; (2) conserving outside plant resources; and (3) facilitating development of a competitive DSL market." (*Ibid.*) AT&T asserted that "[s]etting aside who owns or operationally supports the splitter and who owns the space in which it is deployed, the high-level architecture involved in providing access to the HFS [high frequency spectrum] of the loop to voice CLECs using UNE-P (i.e., line splitting) involves essentially the same architecture that VNJ uses today to line share with its data service or data CLECs." (*Id.* at 204). AT&T argued that Verizon NJ should be precluded from charging a separate rate for UNE-P when CLECs engage in line splitting. (*Id.* at 202).

Relying on the Line Sharing Reconsideration Order and the FCC's Texas 271<sup>32</sup> Order, AT&T stated that Verizon NJ "had a current obligation to permit line splitting" and that "even VNJ conceded that it had a current obligation to permit line splitting." AT&T refuted Verizon NJ's

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<sup>32</sup> In the Matter of Application by SBC Communications, Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region InterLATA Services in Texas, Memorandum Opinion and Order, CC Docket No. 00-65, (Rel. June 30, 2000) at ¶ 325. ("Texas 271 Order").

claim that line splitting should not be available to CLECs using at UNE-P arrangement, stating that the "UNE-P arrangement remains in place even after the customer is provided advanced services through line splitting" and "[t]he FCC explicitly noted that ILECs were obligated to provide line splitting where carriers used the UNE platform to provide voice service." (AT&Trb at 106 n. 86.).

#### **4. Splitter Ownership**

##### **Verizon NJ Position**

Verizon NJ explained that it offers the CLECs two splitter configuration options, i.e., a CLEC may purchase its choice of splitters and install them within the CLEC's collocation space in the central office," or a "CLEC may have its splitters installed in Verizon NJ's central office space, using any Verizon NJ-approved vendor." (VNJb at 187). Verizon argued that its experience to date had indicated that CLECs are ordering line sharing under both options, "which confirms both offer an effective means of line sharing." (Ibid.).

Verizon NJ asserted that there is no legal basis to require it to invest in splitters and make them available to CLECs or to finance and administer a changing array of splitter types for use by a number of CLECs. (Id. at 187-188). According to Verizon NJ, the obligation to unbundle "does not mean that CLECs are entitled to demand that incumbents purchase new equipment for CLEC use, and then 'unbundle' that equipment to further CLEC business plans." (Id. at 187). Verizon NJ further argued that there is a high likelihood of stranded splitter investment because of the rapid evolution of technology and the changing varieties of splitters coupled with the fact that splitters have a unique "signature" that may render them incompatible with the splitters used by another CLEC. (Id. at 188). Verizon NJ stressed that it "should not have to bear the risk of stranded splitter investment caused by CLEC attempts to keep up with these changes by demanding the most recent splitter." (Ibid.). Verizon NJ concluded that "[t]he individual CLEC, implementing its individual business plan, will reap the reward if its plan is successful and thus that CLEC should have to finance the investment required to carry out that plan." (Ibid.).

In support of its position, Verizon NJ cited the FCC's decision approving the application of Southwestern Bell Telephone to offer long distance service in Texas, wherein the FCC reiterated its prior determinations in the Line Sharing Reconsideration Order that "incumbents may choose to own and provide splitters to CLECs but they are under no obligation to do so." (VNJrb at 168). Verizon NJ also claimed that AT&T's argument that the splitter and DSLAM are

parts of the loop that Verizon NJ has an obligation to make available for CLEC use was recently rejected by the New York Commission and that "many other state cases have held that there is no obligation for ILECs to own splitters and make them available for CLECs."<sup>33</sup> (*Id.* at 169).

Verizon NJ thus asserted:

Verizon NJ has made available a loop and a port to allow the CLEC(s) to offer voice and data on the same line. Therefore, the FCC was correct when it determined not to expand the existing line sharing UNE to require ILECs to "provide" line splitting. ILEC funding of splitters for CLECs clearly would fail to meet the Act's "necessary and impair" standard. In addition, as technology evolves, other packages of services over cable and satellite will become more attractive to customers.

[*Id.* at 170].

### **Advocate Position**

The Advocate argued that the Board should require Verizon NJ to provide splitters to CLECs for line splitting on a per-line basis. (*Ab* at 129). The Advocate argued that there are solutions to various operational and financial problems raised by VNJ with regard to its provision of splitters, and suggested that "[c]entral ownership of the splitters in a central office would promote efficiency by decreasing the number of splitters in each office." (*Ibid.*). The Advocate further explained that "Verizon NJ-owned splitters would simplify the movement of customers from one provider to another" and that "[a] variety of other advantages can be expected to emerge from a regime in which Verizon NJ provides splitters to CLECs." (*Ibid.*). Responding to Verizon NJ's arguments regarding the potential for stranded investment if it were required to buy and install splitters, the Advocate argued that VNJ's claim regarding stranded splitter investment "ignores the fact that only properly documented forward-looking costs incurred in purchasing and

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<sup>33</sup> Verizon cites to the following decisions in support of this contention: Covad Communications Company Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996, Docket Nos. 00-0312, 00-0313, Arbitration Decision (Ill. CC Aug. 17, 2000), pp. 12-13; In the Matter of the Arbitration of Rhythms Links, Inc. and Covad Communications Company vs. Bell Atlantic-Maryland, Inc. Pursuant to §252(b) of the Telecommunications Act of 1996, Case No. 8842 (Phase I), Order No. 76488 (Md. P.S.C., Oct. 6, 2000), pp. 11-13; Investigation by the Department on its Own Motion as to the Propriety of the Rates and Charges Set Forth in M.D.T.E. No. 17, filed with the Department by Verizon New England, Inc. d/b/a Verizon Massachusetts on May 5 and June 14, 2000, to Become Effective October 2, 2000, Docket No. 98-57 (Phase III), Order (Mass. D.T.E., Sept. 29, 2000), pp. 32-35; Petition of Covad Communications Company for an Arbitration and Award Against Bell-Atlantic Pennsylvania, Inc. Implementing the Line Sharing Unbundled Network Element, Docket Nos. A-310696F002, A-310698F0002, Opinion and Order (Penn. P.U.C., Aug. 17, 2000), p. 29; Petition of IP Communications Corporation to Establish Expedited Public Utility Commission Oversight Concerning Line Sharing Issues, Docket Nos. 22168, 22469, Interim Award (Tex. P.U.C., Aug. 1, 2000), p. 8; In the Matter of Continued Costing and Pricing of UNEs, Transport, Termination, Docket No. UT-003013 (Phase A), Thirteenth Supplemental Order (W.U.T.C. Jan. 31, 2001), p. 65; Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks, Rulemaking 90-04-003, and Investigation on the Commission's Own Motion Into Open Access and Network Architecture Development of Dominant Carrier Networks, Investigation 93-04-002, Decision 00-09-074, Interim Opinion, p. 7, 2000 WL 1875844 (Cal. PUC, Sept. 21, 2000; NY Wholesale DSL Order, p. 20).

installing splitters may be recovered" and "[i]f these costs are as substantial as Verizon NJ claims, Verizon NJ should have no problem meeting its burden of quantifying them." (Id. at 50). Accordingly, the Advocate "strongly encourage[d] the Board to require that Verizon provide splitters to CLECs for line splitting on a per-line basis." (Ibid.).

### **AT&T Position**

AT&T argued that the splitter is "part of the loop in accordance with the FCC's definition of the loop." (AT&Tb at 207). According to AT&T, "[w]hen a CLEC purchases a loop from VNJ, e.g. as part of UNE-P, VNJ should provide access to all functionalities and capabilities of that loop, including associated electronics such as the splitter." (Ibid.). AT&T further argued that "VNJ's opposition to providing CLEC's access to its splitters on a line-at-a-time basis is without basis as a legal matter or, as a factual and policy matter." (Id. at 207). Specifically, AT&T claimed that Verizon NJ has improperly narrowly interpreted the FCC's UNE Remand Order, "to limit CLEC access to the loop and in particular hobble competitors' ability to use the loop to provide competitive advanced services or advanced services and voice bundles." (Ibid.).

In addition, citing various state commission decisions including Indiana and Wisconsin,<sup>34</sup> which determined that "ILECs must provide for line splitting with ILEC owned splitters." (Id. at 209). AT&T asserted that the Board has the authority to require VNJ to provide splitters on a line-at-a-time basis with line splitting using UNE-P and should do so. (Id. at 208-209). According to AT&T, "there is no easier, more efficient, more customer friendly central office solution than to have VNJ own and provide splitters on a line-at-a-time basis in the central office as one option for the provisioning of advanced services" because "[t]his requirement reduces the use of scarce central office space and minimizes the potential for disruption of customers' voice service." (Id. at 210).

## **5. Service Order Charge for Line Sharing**

### **Verizon NJ Position**

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<sup>34</sup> AT&T Communications of Indiana, Inc., TCG Indianapolis Petition for Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with Indiana Bell Telephone Company, Incorporated d/b/a Ameritech Indiana Pursuant to Section 252(b) of the Telecommunications Act of 1996, Cause No. 40571-INT-03, Indiana Utility Regulatory Commission Order; Petition for Arbitration to Establish an Interconnection Agreement Between Two AT&T Subsidiaries, AT&T Communications of Wisconsin, Inc. and TCG Milwaukee, and Wisconsin Bell, Inc. (d/b/a/ Ameritech Wisconsin), Docket 05-MA-120, Public Service Commission of Wisconsin Arbitration Award, October 12, 2000.

Verizon NJ proposed a service order charge for line sharing that is equal to the amount of the service order charge already developed and in use for unbundled loops. (VNJrb at 187). Verizon NJ pointed to the fact that “the record evidence indicates that if Verizon NJ had undertaken a new cost study for service order charges applicable to line sharing, its costs would have been greater than the amount of the proposed charge.” (*Ibid.*). It stressed that “[t]he service order process associated with line sharing is actually more complex.” (*Ibid.*) As Verizon NJ described the process, “[w]hen an order is received for a line sharing arrangement, two service orders communicate to the various departments (including provisioning and billing) the work activities that must be performed. Although two orders (retail and wholesale) are required to establish the line sharing arrangement, only one non-recurring service order charge is assessed.” (*Ibid.*).

Verizon NJ stated that “[t]he retail order is issued to note that the account is a line sharing account and to inform the provisioning groups what activities are required to establish the line sharing arrangement.” (*Ibid.*). It further explained that “[t]his order also alerts various work groups that a data service is present on the voice grade loop, and as a result, that it cannot be upgraded from copper to fiber because doing so would put the data portion out of service. The wholesale order establishes the line sharing arrangement for the CLEC, and provides a billing record for the CLEC and a maintenance record for Verizon NJ. This order is also used for any future activity the CLEC may initiate on the account.” (*Id.* at 187-188).

### **Advocate Position**

The Advocate argued that Verizon NJ had “made no effort to justify its assumption” that service order charges “for a full loop should apply fully to line sharing arrangements.” (Ab at 126). Specifically, the Advocate argued that “Covad persuasively demonstrated that the Service Order charge should be reduced on the basis of a line sharing-specific cost analysis.” (*Ibid.*). With regard to VNJ’s argument that line sharing orders are complex, the Advocate noted that VNJ “does not account for the possibility that those complexities may be handled at least in a forward-looking construct, by a mechanized, flow-through process.” (*Ibid.*). Therefore, it contended that Verizon NJ did not meet its burden of proof, and it proposed the service order charge should be reduced by 50%. (*Ibid.*).

### **Covad Position**

Covad argued that changes developed for use with stand-alone loops are premised upon some work steps which are not applicable to line sharing and noted, for example, that Verizon NJ "included in the Service Order charge the task of manually re-typing local service requests, which (for line sharing in a forward-looking network) should flow-through to Verizon's provisioning systems without human intervention." (COVb at 25). Covad further stated that "[b]y borrowing service order and installation charges from stand-alone loops without any adjustment for the specific requirements of line sharing, Verizon has failed to meet its burden of proof that the proposed charges properly recover the costs of initiating line sharing." (*Ibid.*). Covad argued that since "Verizon has failed to justify applying the service order and service installation charges to line sharing, the Board should adopt Covad's proposed rates for central office wiring and discount Verizon's remaining proposed rates by 50%, pending a showing by Verizon that different rates are justified." (COVb at 26).

## **6. Collocation Charge for Line Sharing**

According to Verizon NJ, when a CLEC orders a new collocation arrangement with line sharing capabilities, Verizon NJ should be allowed to charge for collocation and the added line sharing features -- which are not included in basic collocation rates. (VNJb at 202). Should augmentation be required when a CLEC decides to add line sharing capabilities to an existing collocation arrangement, Verizon NJ sought to apply collocation augment costs, in addition to line sharing costs, to reflect the actual forward-looking costs that Verizon NJ asserted it incurs on the CLEC's behalf. (VNJb at 202-203). Verizon NJ pointed out that it will incur costs associated with both line sharing and collocation when responding to a CLEC's request. (*Id.* at 203). VNJ asserted that, for example, augmenting a CLEC's collocation cage with a splitter will involve the same application processing, the same planning and engineering of cable routes and terminations, the same meetings with real estate, engineering, etc., that is required for any other collocation augment. (*Ibid.*). Aside from Verizon NJ, only the Advocate addressed this issue but took no position on it. (Ab at 123).

## **7. Cross Connect Charge for Line Sharing**

### **Verizon NJ Position**

Verizon NJ pointed out that in the future, "a request for a single 2-wire unbundled loop delivered to a CLEC's collocation arrangement must be provided using a 2-wire central office cross connection and requires outside plant feeder loop facilities that are either copper or UDLC.

Therefore, there will always be a continuing need for manual central office activity” for which Verizon NJ argued it should be permitted to recover its costs. (VNJb at 162). Verizon NJ also contended that AT&T’s suggestion that Verizon NJ should not have developed separate CO technician costs for new and additional requests ignores the fact that the costs incurred for initial and additional work vary and that recognizing this variation in the rates charged CLECs is consistent with basic cost causation principles. (*Id.* at 162 n.557). In response to AT&T’s allegation that it must provide cross connections in connection with collocation, Verizon NJ stated that “[t]he CLEC is obligated to provide the cable between the collocated equipment in the Remote Terminal (“RT”) and the Telephone Company Outside Plant Interconnection Cabinet (“TOPIC”),” and “Verizon NJ will provide any cabling between the CLEC-provided demarcation point and any Verizon NJ-owned cross-connect points.” (*Id.* at 189).

Responding to Covad’s contentions, Verizon NJ argued that “Covad offers proposed rates for both placing and removing jumpers, but provides no details as to how these costs were determined other than to state that the costs reflect its subject matter experts’ opinion as to the work times required.” (VNJrb at 188). Verizon NJ stated that unlike Covad’s reference to a cross connect rate of a Verizon affiliate local exchange company in Hawaii, which VNJ contended does not have costs analogous to Verizon NJ, its cost studies reflect real life activities associated with jumper activity in New Jersey. (*Ibid.*). In addition, Verizon NJ noted that “[t]he costs for jumper activity are only one portion of the splitter installation non-recurring costs.” (*Ibid.*). Verizon NJ also disputed Covad’s argument that regardless of the network configuration, the “price for jumper replacement/ removal and tie cables should reflect placing the splitters at or near the MDF” because it asserted that it “places the splitter where space is available, and its cost study is based on distances sampled in New York,” which it found “to be comparable to New Jersey’s existing collocation cross-connect rates.” (VNJrb at 188).

### **AT&T Position**

AT&T argued that Verizon NJ must provide cross connections with collocation. (AT&Tb at 203). AT&T stated that “CLECs need those same cross connects to terminate the voice portion of the signal onto one carrier’s voice switch and terminate the high frequency portion of the loop carrying the data to another carrier’s Digital Subscriber Line Access Multiplexer (‘DSLAM’).” (*Ibid.*).

### **Covad Position**

Covad argued that Verizon NJ failed to support its proposed plan to "charge line sharing CLECs two nonrecurring installation charges." (COVrb at 1). Covad presented a study of the costs of performing central office work that included the costs of placing and removing jumper wires. (Id. at 26). Covad explained that these costs were developed "by applying the labor rates of Verizon NJ's Wholesale Non-Recurring Costs Model to labor times for the relevant tasks developed by Covad's subject matter expert, Mr. Riolo," which it claimed were "comparable to the rates of Verizon's Hawaii affiliate for performing central office jumper work." (Id. at 25-26).

## **8. Loop Conditioning**

### **Verizon NJ Position**

Verizon NJ pointed out that in its October 6, 1999 Summary Order,<sup>35</sup> the "Board, consistent with the Act and the FCC's Orders, has already acknowledged that Verizon NJ should recover its costs for loop conditioning." (VNJrb at 149). Verizon NJ argued that "the Act plainly states that ILECs are entitled to recover the costs of providing UNEs to CLECs" and "[t]he FCC has ruled specifically and repeatedly that ILECs are entitled to recover loop conditioning costs." (Id. at 150, citing Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, Memorandum Opinion and Order, and Notice of Proposed Rulemaking, ¶ 53 n. 98 (Aug. 7, 1998): First Report and Order, ¶ 382; UNE Remand Order ¶19.). Verizon NJ argued that, consistent with the Act, because it "incurs costs in response to a CLEC's request for loop conditioning,. . . [it] is entitled to recover these costs from the cost-causer, i.e., the party requesting Verizon NJ to modify its network." (VNJrb at 149).

Verizon NJ explained that "[c]onditioning a loop involves activities such as removing loading coils, bridged taps, filters, range extenders and similar devices commonly used to assist in the provision of analog voice and data transmission, where a competitive carrier requests access to the high-frequency portion of the local loop and such devices preclude deployment of xDSL." (VNJb at 175). Verizon NJ claimed that "there are limited circumstances under which loop conditioning charges will be incurred by CLECs." (Id. at 176). For example, Verizon NJ stated that "[f]or loops shorter than 18,000 feet from the central office, Verizon NJ does not impose any charges for the rare occasions where removal of load coils is necessary because Verizon NJ's design criteria do not call for load coils on loops less than this length"; "[w]here load coils are present on copper loops longer than 18,000 feet, the load coils generally cannot be removed

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<sup>35</sup> Summary Order, I/M/O Board's Investigation Regarding the Status of Local Competition, Docket No. TX98010010 (October 6, 1999) ("Summary Order").

because they are necessary for the circuits to function at voice grade standards," and "[i]n accordance with FCC limitations, Verizon NJ will not condition a loop for shared-line xDSL where to do so would significantly degrade the customer's analog voice service." (*Ibid.* at 176). Verizon NJ stressed that it "will condition a loop only upon a competitor's request, thus a CLEC may decide not to have a loop conditioned rather than pay for such conditioning." (*Id.* at 177).

Verizon NJ argued that the Utah, California, Texas and Massachusetts state commission decisions cited by Covad to support the proposition that loop conditioning charges should be disallowed were "either inapposite or erroneously decided" and that California now permits loop conditioning charges and the Texas Order relied upon by Covad's witnesses also permitted those charges.<sup>36</sup> (VNJrb at 150-151). To bolster its position, Verizon NJ cited New York, Maine, Washington, Minnesota, Missouri and Illinois state commission decisions,<sup>37</sup> which it argued were consistent with findings by the Board and the FCC that ILECs can recover loop conditioning costs. (*Id.* at 152). Refuting AT&T's, Covad's and WorldCom's claims that "any loop conditioning charge would be inconsistent with the FCC's TELRIC cost methodology," VNJ argued that "the FCC, the agency that coined the term TELRIC, has specifically stated that the ILECs should be allowed to charge for loop conditioning." (*Id.* at 152-153). Verizon NJ also argued that AT&T's claim that if Verizon NJ "had employed the CSA Guidelines the Company would have already removed load coils and bridged taps on loops shorter than 18,000 feet" was irrelevant because Verizon NJ "does not impose loop conditioning charges for loops shorter than 18,000 feet." (*Id.* at 153).

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<sup>36</sup> Utah Public Service Commission Phase III Part C Report and Order in Docket No. 94-999-01, issued June 2, 1999, ("Utah PSC Order"); Consolidated Petitions of New England Telephone and Telegraph Company d/b/a Bell Atlantic Massachusetts, et al., Pursuant to Section 252(b) of the Telecommunications Act of 1996, for Arbitration of Interconnection Agreements Between Bell Atlantic Massachusetts and the aforementioned companies, DPU/DTE 96-73/74, 96-75, 96-80/81, 96-83, 96-94-Phase 4-L, at 103 (Ma. D.T.E. October 14, 1999); Rulemaking on the Commission's Own Motion To Govern Open Access To Bottleneck Services and Establish A Framework for Network Architecture Development of Dominant Carrier Networks; Investigation of the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks, Rulemaking No. 93-04-003, Decision No. 99-11-050 (Filed April 7, 1993), Investigation No. 93-04-002 (Filed April 7, 1993), 1999 Cal. PUC LEXIS 833, \*101, ¶145 (Ca. PUC Nov. 18, 1999).

Investigation by the Department on Its Own Motion as to the Propriety of the Rates and Charges Set Forth in M.D.T.E. No. 17, Filed With the Department by Verizon New England, Inc. d/b/a Verizon Massachusetts on May 5 and June 14, 2000, to Become Effective October 2, 2000, D.T.E. 98-57-Phase III-A, (Mass. D.T.E. Sept. 29, 2000)

<sup>37</sup> Bell Atlantic - Maine Request for Approval of Interconnection Agreement with Skowhegan Online, Inc., Order Approving Interconnection Agreement, Docket No. 2000-627, 2000 Me. PUC LEXIS 276 (Maine PUC Aug. 15, 2000); In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination and Resale for US West Communications Inc. and GTE Northwest Inc., 17<sup>th</sup> Supplemental Order: Interim Order Determining Prices; Notice of Pre-hearing Conference, Dkt. Nos. UT-960359, UT-960370 & UT-960371 (Wash. UTC, Sept. 23, 1999), p. 120; In the Matter of the Consolidated Petitions of AT&T Communications of the Midwest, Inc. et al., Dkt. Nos. P-442,421, et al., 1997 Minn. PUC LEXIS 49, \*115 (Minn. PUC, March 17, 1997); In the Matter of the Petition of Dieca Communications Inc., etc., Arbitration Order, Case No. TO-2000-322, 2000 Mo. PUC LEXIS 260, \*17 (Mo. PUC, March 23, 2000). Illinois Commerce Commission on its Own Motion v. Illinois Bell Telephone Co. Investigation of Construction Charges, Order, Dkt. No. 99-0593, 2000 Ill. PUC Lexis 654 \*157 (Ill. PUC, Aug. 15, 2000).

Further responding to CLECs' claims that costing on the basis of copper loops is contrary to forward-looking pricing because a forward-looking network would not use copper loops or bridged taps, Verizon NJ asserted that its use of copper loops is consistent with forward-looking pricing because "Verizon NJ only proposes to charge loop conditioning charges in those limited instances where a CLEC seeks to use an all copper loop that is over 18,000 feet," and "current loop design guidelines permit the continued presence of bridged taps in copper loops, even in redesigned or newly constructed plant." (Ibid.). Verizon NJ also asserted that Covad's "history of outside plant design" (Exh. Covad 1, at 22) does not prove that ILEC networks should not require loop conditioning and should be disregarded because it makes simplistic judgments that are irrelevant to the issues in this proceeding. (Id. at 154-155).

Verizon NJ argued that "non-recurring charges, for those infrequent instances where loop conditioning is requested, are consistent with FCC guidelines and are based on the TELRIC cost of loop conditioning." (VNJb at 177). To develop its loop conditioning costs, Verizon NJ explained that it undertook the following steps:

First, Verizon NJ identified the non-recurring work activities (by work group) required to provision the UNE by questioning those who actually perform the work, using the current method of operation as a baseline.

Second, Verizon NJ cost analysts consulted technicians in the field organizations responsible for the ordering and provisioning of wholesale services to derive the average work times required to complete all work process activities. Verizon NJ instructed the respondents to provide average work times assuming the most efficient provisioning possible for each of the non-recurring cost elements under study.

Third, Verizon NJ applied a typical occurrence factor to that average work time to capture the frequency with which an activity is currently performed for the UNE.

Fourth, subject matter experts reviewed these estimates and determined that for the foreseeable future, these activities would be necessary and would not be shortened by any anticipated mechanization.

Finally, Verizon NJ multiplied the forward-looking work time (in minutes) by the directly-assigned forward-looking labor rate per minute to yield the forward-looking direct cost.

[Id. at 177-178(footnotes omitted)].

Verizon NJ further explained that "[a]fter undertaking all these steps, Verizon NJ went further to ensure the reasonableness of the cost estimates" and "reviewed the results of the costs thus developed in light of the experience of experts responsible for such processes from within the Company, and further considered analyses of experts outside the company." (*Id.* at 178). For example, Verizon NJ utilized the results of a time and motion study, which was prepared by time and motion experts, to validate work times and associated costs. (VNJrb at 156). Thus, Verizon NJ argued that the process employed for developing the non-recurring charges is reasonable and well-supported by the evidence. (VNJb at 178).

Verizon NJ dismissed Covad's criticism of the survey techniques it used to develop its loop conditioning costs and alleged that "the statistical validity of the data Covad purports to provide is not even worth measuring because their data is so inherently unreliable." (VNJrb at 155). In contrast to its work-time estimates that were "based upon a survey of more than 165 managers/engineers (with experience levels averaging approximately 12 years)," Verizon NJ stated that "Covad witnesses rely on one individual's (Mr. Riolo's) recollection of his experience and propose grossly inadequate and incomplete work time suggestions." (*Ibid.*). Verizon NJ cited various examples of alleged deficiencies in Covad's cost methodology and argued that the "Board should reject Covad's unsupported and incomplete alternative proposal for loop conditioning charges." (*Id.* at 158-160). Similarly, Verizon NJ claimed that WorldCom's estimates were based on "one man's experience with work-times, based solely on his experience in Missouri." (*Id.* at 155).

Verizon NJ argued that the Covad's assertion that "Verizon NJ should have developed its conditioning costs assuming that it conditions multiple loops simultaneously, including pairs for which no CLEC has requested conditioning," is flawed because it "assumes that there are multiple pairs at the same location with unused bridged taps and/or multiple pairs with load coils not needed for future voice service." (*Id.* at 159). It argued that "random removal of load coils could result in a degradation of voice service and random removal of bridged tap could result in service disconnection and reduced utilization of loop plant." (*Ibid.*). Verizon NJ further asserted that "[e]ven if the CLECs' proposed hypothetical reflected reality, or were possible, the increase in current costs would be certain and immediate, while the long-term cost savings would be speculative and undeterminable, depending on whether the conditioned loops were ever used to provide xDSL service." (*Ibid.*). Verizon NJ also noted that the Connecticut Department of Public

Utility Control had "concluded that conditioning multiple loops at the same time would actually decrease efficiency" and rejected use of a multiple loop conditioning assumption. (Id. at 160).<sup>38</sup>

Additionally, Verizon NJ refuted claims that its "proposed non-recurring charges recover costs already being recovered in recurring rates" and explained:

UNE loop costs do not assume a fully conditioned loop. Indeed, they contain no assumptions relevant to xDSL technology. Moreover, in the vast majority of cases, CLECs will provide xDSL services as part of a line sharing arrangement, under which they will pay no UNE loop costs at all.

Second, loop conditioning costs recover the one-time expenses that are incurred as a result of the work entailed in removing load coils or bridged taps -- costs which are not included in the recurring costs of a loop. Loop conditioning costs are incremental costs Verizon NJ incurs on behalf of the CLECs, and Verizon NJ is permitted to recover these costs from the CLECs. Significantly, conditioning charges are not applicable to every DSL-capable loop -- where no conditioning occurs, no charges would apply.

Third, Covad is incorrect when it argues that Verizon NJ recovers loop conditioning costs as part of ordinary maintenance. In fact, the necessary conditioning activities are not performed as part of routine maintenance. As mentioned above, CLECs would require removal of load coils, but Verizon would not routinely remove such coils because they are needed on loops more than 18,000 feet to enable voice transmission.

While it may be in the interest of CLECs to add the costs of loop conditioning to the recurring costs that are recovered over time, as AT&T and the RPA suggest, it is clear that Verizon NJ will not be able to recover its costs if cost recovery is limited to recurring charges. Moreover, because these are labor-related costs, not capital costs, and thus are incurred all at one time, recovering them on a recurring basis would subject Verizon NJ to a significant risk of under-recovery in the event a CLEC cancels service before the amortization period ended.

[Id. at 161-162 (footnotes omitted)].

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<sup>38</sup> DPUC Review of SNET's Studies of UNE Non-Recurring Charges, Decision, Dkt. No. 00-03-19, 2000 Conn. PUC LEXIS 187, \*61 (Conn. DPUC, June 29, 2000).

## **Advocate Position**

The Advocate stated that "[f]or purposes of this proceeding, conditioning includes removing load coils and excessive bridged taps from loops so the loops will be suitable for DSL service, and adding repeaters to long loops so they can provide ISDN service." (Ab at 107). The Advocate asserted that "[l]oad coils and bridged taps are equipment that was used in older outside plant designs to support analog/voice services, but would impede DSL transmission." (*Ibid.*). The Advocate asserted that "[c]onditioning charges, like other nonrecurring charges, have a dangerous potential to restrain competition by erecting barriers to entry by DSL competitors." (*Id.* at 108). The Advocate alleged that "Verizon NJ's conditioning charges are entirely unjustified and anticompetitive" because they were calculated "using the same flawed methodology as it uses for the rest of its nonrecurring charges." (*Ibid.*). The Advocate claimed that Verizon NJ's conditioning charges should be rejected because: (1) "these charges create a significant risk of double recovery because they are based on a different network construct than Verizon NJ uses for its recurring charges"; (2) "Verizon NJ uses its embedded network, moreover, to determine conditioning charges, an impermissible choice under TELRIC principles"; and (3) "the work time survey underlying these charges is riddled with methodological errors and anomalous results." (*Ibid.*).

The Advocate asserted that "Verizon NJ's ISDN conditioning charge is an egregious example of double-counting as a result of using different network assumptions to derive recurring and nonrecurring costs." (*Id.* at 109). The Advocate stated, however, that "[e]ven if this ISDN conditioning charge were otherwise permissible, it should be levied on a recurring basis." (*Id.* at 110). With regard to Verizon NJ's work time estimates, the Advocate argued that "[c]onditioning multiple loops is not only more efficient from the perspective of labor time savings, it avoids degradation of splices through repeated intrusion for single-pair operations." (*Id.* at 111). The Advocate ultimately recommended that the Board base conditioning rates "on a combination of the more conservative aspects of the AT&T and Covad analyses." (*Id.* at 112). Specifically, the Advocate recommended "applying the AT&T witness' recommended labor rate to the Covad witnesses' work times," resulting in a charge of \$20.32 for load coil removal and \$1.09 for bridged tap removal. (*Ibid.*).

### **AT&T Position**

AT&T argued that Verizon NJ should not be permitted to assess any line conditioning charge, but that if such a charge is imposed, it must be computed "using the most efficient methods and technology available for carrying out such line conditioning" and "recovered in the form of recurring monthly charges, rather than the excessive nonrecurring fees that the UNE Remand Order found to be a barrier to entry." (AT&Tb at 196-201). AT&T asserted that "VNJ should not be permitted to assess any line conditioning charge, because the charge encompasses the removal of 'interferors' (such as load coils and bridged taps) that has not been a generally accepted design strategy for the last 20 or 30 years," and reflects "VNJ's failure to follow applicable engineering design practices and guidelines for nearly three decades." (*Id.* at 196-197). AT&T contended that "[u]nder these circumstances, any charge for removal of 'interferors' would be inconsistent with TELRIC principles." (*Id.* at 196, 199). AT&T stated that "[t]he guidelines also call for the removal of load coils and bridged taps from loops of less than 18,000 feet to improve the quality of both POTS service and advanced services." (*Id.* at 197). AT&T argued that although VNJ has agreed not to charge for load coil removal on loops less than 18,000 feet, the line conditioning charges it seeks to impose for the removal of load coils or excessive bridged taps are unreasonably high under any standard. (*Id.* at 197-198).

AT&T argued that the line conditioning charges proposed by VNJ also violate TELRIC principles because, among other reasons, its proposed non-recurring charges recover costs already being recovered in recurring costs. (*Id.* at 200). AT&T stated that "costs are recoverable only to the extent that they are not already accounted for in VNJ's maintenance and common cost factors associated with its loop plant" and "[t]o the extent that the costs are already accounted for in these factors, allowing VNJ full recovery of the costs through separate (recurring or non-recurring) charges would constitute blatant double recovery." (*Ibid.*). AT&T asserted that "VNJ, however, has provided no data demonstrating that such double recovery would not occur." (*Ibid.*). AT&T additionally maintained that any permissible line conditioning charges should be recovered in recurring monthly charges that amortize the costs over the life of the loops and that such "charges should be spread over all loops in a particular serving area to ensure that these costs are recovered in a competitively neutral and nondiscriminatory fashion, rather than arbitrarily depending upon where VNJ happens to assign unconditioned loops." (*Ibid.*).

AT&T further argued that "VNJ has vastly inflated its purported line conditioning costs by using methodologies that plainly violate TELRIC." (*Id.* at 201). To support this claim, AT&T argued that "the time required for an experienced engineer to prepare and issue a work order to provide loop conditioning – no more than 20 minutes to one hour – does not even begin to justify the \$643.06 charge proposed by VNJ" and that "VNJ assumes that one technician visit would be required to condition each line pair contained in a particular binder group," which means "that the technician would have to be dispatched 50 separate times to remove load coils from a single binder group of 50 pairs." (*Ibid.*). In addition AT&T claimed that "VNJ has provided no documentation to support its proposed charges and estimated labor hours," which "do not reflect real-world conditions, where the times are vastly shorter." (*Id.* at 202). For all of these reasons, AT&T contended that VNJ's proposed line conditioning charges should be disallowed.

### **Covad Position**

Covad claimed that "Verizon NJ proposes non-recurring charges for conditioning that are so high that they would create an insurmountable barrier to entry in New Jersey for DSL providers seeking to serve customers with long loops." (COVb at 8). Covad explained that Verizon NJ's loop conditioning charges were unjustified because:

First, a separate charge for conditioning is inconsistent with TELRIC pricing because it is based on an embedded, rather than forward-looking, network architecture. Second, CLECs should not have to pay for conditioning work that Verizon NJ should have been doing all along to make its network conform to modern network design standards. Finally, basing nonrecurring conditioning charges on one network construct while basing recurring charges on another is impermissible because it can lead to over recovery.

[*Ibid.* (footnote omitted).].

Covad claimed that a decision by the Utah Public Service Commission<sup>39</sup> supported its argument that there should be no charges for conditioning because in a forward-looking network, there would be no need to condition loops. (*Id.* at 8-9). Covad thus argued that Verizon NJ's use of a "network with an all-copper design to produce its conditioning costs," violated TELRIC principles. (*Id.* at 9). Covad also contended:

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<sup>39</sup> Utah PSC Order, *supra*.

Not only are the proposed conditioning charges unnecessary in a forward-looking network, they would be unnecessary in Verizon NJ's network today if Verizon NJ had complied with its own design standards. For more than twenty years, CSA standards have made load coils and excessive bridged tap unnecessary, and almost all outside plant designed prior to that time should have been replaced or upgraded by now.

[Ibid.].

Covad further argued that Verizon NJ "effectively charges competitors twice for the same functionality" by "developing its recurring loop charges based on a network with fiber feeder, while modeling conditioning costs on the embedded network with all-copper loops." (Id. at 10). Covad stated that "the recurring charges recover the cost of a network from which load coils and excessive bridged taps have been eliminated, and the non-recurring conditioning charges recover the cost of eliminating those same devices." (Ibid.). According to Covad, "[t]his use of inconsistent network designs to develop its nonrecurring and recurring costs creates a significant likelihood that it is over-recovering its costs from its competitors," a finding it claimed was supported by decisions of the Maryland Public Utility Commission and a hearing examiner for the Illinois Commerce Commission.<sup>40</sup> (Id. at 10-11).

Covad claimed Verizon NJ "should not be permitted to levy non-recurring charges for removing excessive bridged taps, load coils, and other impediments from copper loops, or for adding ISDN electronics to long copper loops" and its "proposed \$0.00 charge for loop conditioning is fully consistent with TELRIC principles followed by the Board." (Id. at 12). Covad stated that if, however, conditioning charges are permitted, then the Board "should scrutinize Verizon NJ's proposed charges to ensure that they reflect the least cost, most efficient methods" because "[t]he survey that Verizon NJ used to generate these costs is seriously flawed and yielded preposterous results." (Id. at 12-13). In addition, Covad stated that "Verizon NJ virtually abandoned any pretense of basing these costs on forward-looking work methods...[and] Verizon NJ's efforts to validate the work times in its conditioning study largely undermine the study's credibility". (Id. at 13). Covad argued that "Verizon NJ's work time survey gets off on the wrong foot by asking the wrong question" because "[a] study designed to identify forward-looking, efficient work times would never ask what time a task *does* take, but would ask a

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<sup>40</sup> In the Matter of the Arbitration of Rhythms Links, Inc. and Covad Communications Company vs. Bell Atlantic-Maryland, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996, Case No. 8842 Phase II, Order No. 76852, at 16, 35, 36 (Md. P.S.C. April 3, 2001) ("Maryland Line Sharing Rates Order") Rhythms Links Inc., Proposed Implementation of High Frequency Portion of Loop (HFPL)/ Line Sharing Service, Hearing Examiner's Proposed Order, Docket No. 00-093, at 68 (Il. C.C.) ("Illinois Proposed Order").

forward-looking question of the kind specifically disclaimed by the Verizon NJ study," which is how long a task should take. (Ibid.).

Covad claimed that "[c]onditioning multiple loops is an efficient and beneficial practice that is fully consistent with the in-place outside plant maintenance practices of operating telephone companies" and that "[b]y advancing excessive task times based on loop-at-a-time conditioning practices, Verizon NJ is attempting to charge CLECs for inefficiency." (Id. at 13). Covad thus contended that if the Board allows loop conditioning charges, the Board should reject VNJ's proposed conditioning tasks and associated times and instead utilize its witness "Riolo's proposed efficient, forward-looking work steps, including deloading of multiple loops at a time, and conservative time estimates." (COVb at 14).

## **9. Loop Qualification**

### **Verizon NJ Position**

Verizon NJ explained that "[c]onsistent with the Board's October 6, 1999 Summary Order, Verizon NJ offers certain loop qualification processes by which a CLEC may determine whether a particular loop is suitable for xDSL transmission, and has established associated charges." (VNJb at 178). Verizon NJ, asserted that while AT&T recognizes that the Board already determined that it was entitled to recover its loop qualification charges because "AT&T's brief does not contain any extensive recommendations regarding loop qualification," "[o]ther parties appear unaware of the Summary Order and its significance for loop qualification and loop conditioning." (VNJrb at 162). Verizon NJ explained that it provides four different pre-qualification methods with varying charges depending on the intensity of the qualification process, which include: (1) mechanized loop qualification; (2) manual loop qualification; (3) engineering query; and (4) live wire loop facility and assignment control system ("LFACS"). (Id. at 178-179). VNJ noted that CLECs may "choose the level of information they want and pay only for that level." (Id. at 179).

With the exception of the LFACS method, a rate for which Verizon NJ explained was "only recently being developed and is not proposed in this proceeding," Verizon NJ explained the remaining three methods. (Id. at 179). Verizon NJ explained that pursuant to its mechanized loop qualification process:

a CLEC may query Verizon's Loop Qualification Database through Verizon NJ's standard Operations Support Systems ("OSS") wholesale interfaces using either a telephone number or an address to identify the particular loop. Through such queries, a CLEC may obtain loop qualification information generally needed for most of its loops, e.g., total metallic loop length (as determined by a Metallic Loop Test ("MLT")), presence of load coils, bridged taps, interferors, or fiber/DLC and reasons for rejection (such as interfering technologies).

[Id. at 179-180 (footnotes omitted).]

Verizon NJ stated that "the charge for mechanized loop qualification "reflects the cost of creating and maintaining the loop qualification information database, including the labor-related costs of performing MLTs, the program development and refinements, the loading and extracting of data, and other ongoing maintenance and update activities" and "also recovers costs associated with mechanized loop testing ports in those central offices that were added to the original xDSL deployment schedule" and enhancements to the pre-qualification process. (Id. at 180). It was further stated that Verizon NJ would "conduct these activities associated with creating and maintaining the database on an ongoing basis which due to changes in facilities, growth in loop plant, and CLEC requests for additional information not originally included in the database." (Ibid.). Verizon NJ pointed out that "[t]he mechanized loop qualification database contains the results of a test for total metallic loop length (including bridged taps) for wire centers that represent approximately 92% of Verizon NJ's loops." (VNJrb at 162).

Verizon NJ explained that the manual loop qualification process "gives CLECs the following information for loops not included in the mechanized database: (i) total metallic loop length (inclusive of bridged tap); (ii) presence of load coils (yes/no); (iii) presence of DLC equipment (yes/no); and (iv) qualification per Verizon NJ's standards." (VNJb at 181). Verizon NJ stated that "[t]he manual loop qualification charge reflects the fact that the information Verizon NJ provides to CLECs is not contained in any one system; rather, the information must be retrieved manually from a number of records and systems," but VNJ noted that "[o]nce compiled for a particular loop or terminal, it is retained and entered into the loop qualification database for future use." (Id. at 180).

Verizon NJ further explained that the engineering query process provides information beyond that provided by the mechanized and manual loop qualification processes, "including the

number and location of bridged taps and/or load coils, the location of DLC equipment, or the cable gauge at specific locations." (Id. at 182). This process requires Verizon NJ to "conduct a manual review of its cable plats and provide the information to the requesting CLEC." (Ibid.). Verizon NJ explained that the "charge associated with a CLEC's request for an engineering query recovers the costs to process and respond to these requests." (Ibid.).

In addition, Verizon NJ pointed out that "[i]n those limited instances where the information that CLECs seek regarding loop qualification does not reside in any mechanized database at the present time, the FCC and the Board have recognized that the ILECs are under no obligation to create them at their own expense to serve the CLECs." (VNJrb at 163-164, citing UNE Remand Order; ¶¶ 427, 429). Verizon NJ argued that its "proposal to further improve the mechanized database with loop qualification information regarding more loops by gradually adding to it over time is . . . more cost effective than completing population of the entire database at once, as the CLECs suggest, without regard to whether the information is needed, or ever will be needed." (Id. at 164). Verizon NJ refuted criticisms that its task descriptions and work times are duplicative and stated that collecting information onto a worksheet then using the worksheet to update LFACS "actually simplifies the arduous process of data accumulation." (Id. at 165-166).

Verizon NJ thus maintained that its proposed charges for loop qualification, by which CLECs have access to all information that VNJ uses for its own retail service, are consistent with FCC guidelines and are based on the TELRIC incremental cost of qualifications" and should be adopted by the Board. (Id. at 182; VNJrb at 166).

### **Advocate Position**

The Advocate explained that "[l]oop qualification is the process by which Verizon NJ provides CLECs information concerning the suitability of loops for advanced services." (Ab at 113). The Advocate stated that "Verizon NJ is obligated under FCC decisions to afford its competitors direct electronic access to its databases containing loop makeup information" and that "[e]ach CLEC is entitled to access to the same loop makeup information as is available to any of the ILEC's employees (not just its retail arm), so that the CLEC can independently determine the suitability of a loop for the services it wishes to offer." (Ibid.). The Advocate asserted that "the proper, forward-looking charge for any loop qualification operation is a minimal 'dip' charge that reflects the cost of providing an electronic query of a well-maintained database." (Id. at 114).

The Advocate argued that "Verizon VNJ's current loop qualification offerings and rates do not comply with the FCC's requirements" because "[n]one of these service offerings provide full, direct access to Verizon NJ's databases of loop makeup information." (Id. at 115). The Advocate claimed that "Verizon NJ's proposed rates would improperly recover from CLECs Verizon NJ's costs for upgrading databases used for all aspects of Verizon NJ's operations, including its retail business." (Id.). The Advocate argued that VNJ began using LFACS long ago, and its own practices contemplated that it would populate the system with loop makeup information on an ongoing basis, which would have been an efficient approach. (Id. at 116). The Advocate argued that VNJ began using LFACS long ago and its practices contemplated that it would populate the system with makeup information on an ongoing basis which would have been an efficient approach. (Id. at 116). The Advocate contended, however, that VNJ "failed to update the database in an efficient manner" and that "CLECs should not be required to pay Verizon NJ to correct its failure to follow its own procedures" because "[i]t would be a gross distortion of TELRIC principles to allow Verizon NJ to charge for technology that does not even measure up to its own current standards, let alone to the standard of forward-looking efficient technology." (Id. at 116). The Advocate claimed that the Illinois Commerce Commission recently adopted this position.<sup>41</sup> (Id. at 117)

In concluding, the Advocate stated:

The Ratepayer Advocate supports Ms. Murray's and Mr. Riolo's finding that the Board should also reject Verizon NJ's loop qualification charge because it would improperly subsidize the upgrading of databases that Verizon NJ uses for many loop-related purposes. A significant portion of the charge for Mechanized Loop Qualification would recover the cost of populating the LFACS database with information that would then be available for assigning loops for all types of service, including further loop qualification procedures (for which Verizon NJ will presumably charge CLECs), other future operations with respect to the affected loops, and Verizon NJ's own retail operations. Similarly, Verizon NJ's manual processes will also be used to update LFACS. Since these costs are associated with all loops, not just loops requested by DSL competitors, we would agree with the Covad witnesses that Verizon NJ should have spread those costs over all loops, not just DSL loops.

[Id. at 117-118 (citations omitted).]

The Advocate also urged that "[t]o assure that competitive carriers receive the information to which they are entitled at a proper price, therefore, Verizon NJ should be ordered to make

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<sup>41</sup> Supra, En. 10, Illinois Proposed Order.

specific and concrete its plan to provide CLECs direct electronic access to loop makeup information in LFACS." (Id. at 118).

### **AT&T Position**

AT&T acknowledged that "Verizon NJ's obligations with respect to loop qualification data were addressed by the Board in its October 6, 1999 Summary Order in Docket No. TX98010010 and are the subject of pending motions in that docket." (AT&Tb at 203). AT&T argued that "[n]otwithstanding the pendency of those matters, the Board should determine that basic nondiscrimination principles require VNJ to make available to CLECs simultaneous and equivalent access to all electronic databases that VNJ, its affiliates and their agents may access that contain loop qualification data." (Ibid.). AT&T further argued that "[a] CLEC also should be permitted to decide, in its sole discretion, whether it will individually qualify loops it will use for line sharing or line splitting." (Ibid.). AT&T stated that "VNJ should not be liable to the CLEC for failure to provide a specific level of service in the HFS if the CLEC has not qualified a loop that was not previously qualified" but "if a loop has previously been used by another carrier (including VNJ) to provide service in the HFS, then VNJ should be responsible if the loop fails to meet the operating parameters of that loop." (Ibid.).

AT&T asserted that "CLECs should not be required to use VNJ's loop qualification database in all instances of providing xDSL service." (AT&Trb at 104). According to AT&T, "there is no reason to require CLECs to use VNJ's loop qualification database" because such a requirement would "impose unnecessary costs upon CLECs while providing a windfall to VNJ." (Id. at 105). AT&T also agreed "with the RPA and Covad that VNJ does not provide non-discriminatory access to the information necessary for loop qualification," notwithstanding that this was raised two years ago in the Board's Docket No. TX98010010. (Id.).

### **Covad Position**

Covad argued that "[t]he FCC requires that Verizon NJ, like other ILECs, provide CLECs with direct access to its databases containing information necessary for loop qualification" and that "Verizon NJ must give Covad access to the same loop makeup information as is available to Verizon NJ, so that each CLEC can *independently* determine the suitability of a loop for the services it wishes to offer." (COVb at 15, citing UNE Remand Order, ¶427; 47 C.F.R. §313(c)). According to Covad, the "*UNE Remand Order* established that Covad is entitled to *any and all* loop qualification information that exists *anywhere* in Verizon NJ's systems." (Ibid.). Covad

claimed that Verizon NJ "has failed to meet these requirements" because Verizon NJ "seeks to charge CLECs for Mechanized Loop Qualification, a query of a database that Verizon NJ created to serve its own needs as a retailer." (*Ibid.*). If additional information is required, Covad stated that Verizon NJ requires it "to request Manual Loop Qualification or an Engineering Query, both of which are extremely expensive." (*Ibid.*).

Covad claimed that, having installed LFACS over twenty years ago, Verizon NJ "should have added loop makeup information to the [LFACS] database on an ongoing basis, upon the construction of new plant or the modification of existing loop plant" and as a result of its failure to do so, it "will not offer CLECs direct, electronic access to loop makeup databases, as mandated by the FCC." (*Id.* at 16). Covad argued that the mechanized loop qualification process "utterly fails to meet Verizon NJ's obligation in this area" because the database was created to meet VNJ's own needs as a retailer and "does not yield loop makeup information from which a CLEC can determine the services that the loop will support." (*Id.* at 17). In response to VNJ's claim that CLECs have access to all information VNJ uses for its own retail services, Covad stressed that VNJ's "legal obligation is to make available all loop qualification information it has in its databases or other records, not just the information that its retail operations decide to use." (COVrb at 3). It further contended that contrary to Verizon NJ's claim that its mechanized database provides basic information needed by CLECs, "[i]n reality that database tells CLECs whether a loop is qualified to provide Verizon's retail DSL service, not whether the loop is qualified to provide other advanced services that the CLEC may wish to provide." (*Ibid.*). Covad concluded "that despite the clear directives of the FCC, industry standards over the last twenty years, and its own internal procedures, Verizon NJ still does not provide CLECs with open and efficient access to the loop makeup information that it possesses and to which CLECs have an established right." (*Ibid.*).

Covad also asserted that Verizon NJ's loop qualification rates are flawed because "they cover service offerings that do not comply with FCC requirements for access to loop makeup information" and "are based on the use of processes made necessary by Verizon NJ's own past inefficiency." (*Ibid.*). For example, Covad stated that "[t]hese processes include cumbersome manual operations that are the farthest thing from the forward-looking, efficient technology required for UNE cost determination." (*Ibid.*). In addition, Covad stated that Verizon NJ's claims that LFACS does not contain the information that CLECs need misses the point because "that inadequacy is wholly the consequence of Verizon NJ's decision to ignore its own guidelines and

forego populating the database in an efficient manner." (Id. at 18). Covad also argued that, as the Maryland Commission recently found,<sup>42</sup> "[c]osts grounded in – indeed primarily driven by – Verizon NJ's failure to populate its own loop makeup database cannot be regarded as based on a forward-looking, efficient cost construct, and CLECs cannot be regarded as having 'caused' these costs." (Ibid.).

Covad also argued the qualification rates were "further flawed because they would force CLECs to subsidize the upgrading of Verizon NJ's databases in the ways [Verizon NJ] has neglected to do for years." (Id. at 19). Specifically, Covad argued that "[r]equiring CLECs to bear all the costs of an activity that confers such benefits on Verizon NJ in a broad range of its operations flies in the face of fundamental costing principles and "would compensate the company for using manual, inefficient processes instead of developing efficient, forward-looking ones." (Ibid.).

Covad concluded that:

[t]o comply with FCC requirements, therefore, Verizon NJ should provide CLECs direct electronic access to the loop makeup information contained in LFACS and TIRKS. To meet the requirement of pricing based on forward-looking, efficient technology, the charge for this access should be minimal, a conclusion that finds support in decisions in proceedings before two other state Commissions.

[Ibid. (footnotes omitted).]<sup>43</sup>

## **10. Wideband Testing**

### **Verizon NJ Position**

Verizon NJ described wideband testing as a service implemented to improve service to CLECs that ensures the integrity and quality of data service on loops. (VNJb at 189). According to Verizon NJ, wideband testing is necessary because "traditional testing methods, such as narrowband mechanized loop tests, do not permit qualitative evaluations of loops for provisioning purposes and do not provide the ability to accurately sectionalize and assign problem responsibility from a service assurance perspective." (Ibid.). VNJ, indicated that the

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<sup>42</sup> Maryland Line Sharing Rates Order, at 31.

<sup>43</sup> The two proceedings of other states referenced by Covad are: *Arbitrator's Order, Re DIECA Communications, Inc. d/b/a Covad Communications Company*, Docket No. 00-DCIT-389-ARB, at 20 (Ks. S.C.C. May 9, 2000) (approved and adopted by the full Commission on July 26, 2000); *Arbitration Award, Re Accelerated Connections, Inc. d/b/a ACI Corp.*, Docket Nos. 20226 and 20272, at 102-103 (Tx. P.U.C. November 30, 1999).

wideband test system included in the cost study submitted in this proceeding is relevant only to wholesale testing and is inapt for retail purposes. (Id. at 190; NJrb at 171).

Verizon NJ explained that the wideband testing, which was included in its cost study, is necessary to provide a quality wholesale product and does not provide the more sophisticated or advanced forms of testing that a CLEC might regard as discretionary; rather, according to VNJ, it ensures that the loop is capable of supporting the desired services from the customer end user to the DSLAM. (Ibid.).

Verizon NJ stated that, as proposed, its wideband testing will reduce line sharing costs for line sharing customers. (Ibid.). A recurring wideband test access charge, Verizon NJ claimed, will apply to all carriers that purchase line sharing service. (Ibid.). In the line sharing context, wideband testing “ensures that the loop is capable of supporting the desired services from the customer end user to the DSLAM, and in doing so it effectively isolates any problems to either the data or the voice layer.” (Ibid.). Verizon NJ developed this charge “by dividing the wideband costs by a forecast of all line shared lines – Verizon NJ retail and CLEC – so that all carriers pay a proportionate share.” (Id. at 191).

Making the wideband testing system optional, Verizon NJ claimed, would increase costs to all CLECs and decrease end user service. (Ibid.; VNJrb at 173). According to Verizon NJ, costs to CLECs opting for the service would increase because the costs would be spread over a smaller group of CLECs, and costs to CLECs foregoing the service would be increased because technicians may need to be dispatched for trouble isolation. (VNJb at 191). Though the costs would increase, Verizon NJ explained, CLECs would not be given the benefit of faster repairs through the use of wideband testing. Verizon NJ also pointed out that the commissions in New York and Massachusetts<sup>44</sup> recognized that it was appropriate for carriers opting not to take wideband testing to have metrics with lower service standards and that CLECs pay dispatch charges made necessary by the system’s absence. (VNJrb at 173).

Verizon NJ argued that CLECs should not be given direct access to the system. (Ibid.). Though the CLECs claimed that wideband testing costs should be denied unless they are given

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<sup>44</sup> Proceeding on the Motion of the Commission to Examine New York Telephone Company’s Rates for Unbundled Network Elements, Case 98-C-1357, Opinion No. 00-07, pp. 25-27, 2000 NY PUC LEXIS 539 (NY PSC May 26, 2000) Investigation by the Department on its Own Motion as to the Propriety of the Rates and Charges Set Forth in M.D.T.E. No. 17, Filed With the Department by Verizon New England, Inc. d/b/a Verizon Massachusetts on May 5 and June 14, 2000, to Become Effective October 2, 2000, D.T.E. 98-57-Phase III Order, pp. 78-79.

direct access, Verizon NJ contended that direct access to the system by the CLEC is a separate issue not related to the costing and pricing issues referred to in this proceeding. (Ibid.).

Verizon NJ further claimed that it is providing the CLECs with the test results and is under no other obligation to provide access to the system. (Id. at 192).

Verizon NJ also rebutted various arguments raised by the CLECs regarding the rates for wideband testing. (Ibid.). According to Verizon NJ, the argument that rates should be reduced because the testing functionality is integrated into a DSLAM should be rejected because DSLAM/wideband testing integration is not efficient in a wholesale environment in which CLECs may choose different splitter and DSLAM equipment. (Id. at 192-193). Additionally, Verizon NJ argued that the testing does not duplicate CLEC testing efforts. (Id. at 193). In support of its position, Verizon NJ pointed out that CLECs do not give VNJ access to their testing results and not all CLECs install testing equipment; therefore, Verizon NJ claimed it should be allowed to use its own testing system since it will be held accountable for a grade of service. (Ibid.). Verizon NJ also emphasized the practicality of recovering the test system costs through a monthly recurring charge because it guards against improper imposition of costs over all products and services, as opposed to just xDSL services. (Ibid.).

In response to criticisms of its utilization factor and forecast applied to wideband testing, Verizon NJ stated that both provide reliable information, and it noted that none of the CLECs proposed its own forecast in this proceeding. (Id. at 193-194). According to Verizon NJ, its forecast is “based on the best information available to it regarding the xDSL/line sharing market, and is used by Verizon NJ for staffing and internal operations,” and its utilization factor of 60% represents its “best estimate based on years of experience with the average utilization of any given element of plant.” (Ibid.).

Verizon NJ also refuted Covad’s arguments regarding the wideband testing rate and the argument that an Alcatel refund should have been credited against VNJ’s wholesale wideband testing, by stressing that the “refund from Alcatel related to retail testing and had nothing to do with the testing function relevant to CLECs, and the CLECs should not reap any benefit from it.” It also contended that the fill factors employed by Verizon NJ in calculating the wideband testing rates are supported by ample documentation. (Id. at 174-175).

### **Advocate Position**

The Advocate recommended that the Board prohibit Verizon NJ from imposing the costs of its Hekimian wideband testing on its competitors because CLECs can and have the right under 47 C.F.R. 51.319(h)(7) to perform their own testing. (Ab at 132; Arb at 51). The Advocate criticized Verizon NJ's position as flawed because it "rests on the premise that deployment of its wideband testing system is an efficient choice." (Ab at 130). In support of this position, the Advocate stated that Verizon NJ did not offer a study or engineering analysis of the effect of the Hekimian system, procured for its retail unit, on Verizon NJ's wholesale provisioning or repair efforts. (*Ibid.*; Arb at 51). The Advocate urged that if a wideband testing charge is imposed on CLECs, it should be optional. (Ab at 131; Arb at 50, 52).

### **AT&T Position**

AT&T claimed that the recurring charges imposed by Verizon NJ for wideband testing on all CLECs providing advanced services are "anticompetitive and would provide an unwarranted windfall to VNJ," and that charges for such testing should be imposed on an optional basis. (AT&Trb at 108). Supporting Covad's position, AT&T explained that carriers may choose to deploy their own testing systems in lieu of using Verizon NJ's testing system and, thus, "imposing a mandatory fee on CLECs would force CLECs to pay for a system that VNJ deployed for itself." (*Id.* at 108-109). AT&T stated that Verizon NJ's argument that wideband testing will improve service for the CLEC's customers is unsupported by the evidence, but, even if supported, the CLEC should have the right to choose the level of service it provides to customers. (*Id.* at 109). AT&T argued that should the Board impose "this mandatory cost upon CLECs, then based on forward-looking principles, the maximum wideband testing rate should be no more than \$.20 per line." (*Ibid.*).

### **Covad Position**

According to Covad, "[w]ideband testing is unnecessary for carriers that plan to deploy their own testing systems for line shared loops, which they are entitled to do under federal law." (COVb at 27). Covad claimed that testing line shared loops will "likely be required on only a small percentage of loops" and, thus, in Covad's opinion, it would be more efficient to test loops at the MDF with a handheld device than it would be to install and operate a metallic test access unit ("MTAU") on each and every line. (*Ibid.*). Covad noted that VNJ already had agreed to permit

Covad to test line shared loops with such a device. (*Ibid.*). Covad further claimed that CLECs can perform their own retail and wholesale testing, making Verizon NJ's wideband testing superfluous. (*Id.* at 28). To refute the position advanced by Verizon NJ that it plans to do wholesale testing, not retail testing which CLECs can perform for themselves, Covad argued that this same position was rejected by other state commissions.<sup>45</sup> (*Ibid.*).

According to Covad, Verizon NJ's true purpose in deploying a wideband testing system is to improve its retail DSL service currently offered through its separate affiliate, Verizon Advanced Data, Inc. ("VADI"), and not enhancing the service quality of line shared loops provided to its competitors. (*Id.* at 29). In support of this position, Covad claimed that the "record demonstrates that, in making the decision to deploy a wideband testing system, Verizon NJ conducted a business case in which the system played a prominent role in managing Verizon NJ's own retail DSL service." (*Ibid.*). Covad thus accused Verizon NJ of now seeking to charge competitors for a testing system that Verizon NJ had planned to use to support its retail DSL services and which it had concluded should be paid for by its retail operations. (*Ibid.*). Instead of having VADI provide such testing, Covad claimed that Verizon NJ chose to provide the testing, even though Verizon NJ "does not believe that its proposed network configuration in which it . . . controls the MTAU is efficient or viable in the long term." (*Id.* at 30). Covad asserted that as soon as Verizon NJ "realized that to be able to provide wideband testing to VADI, it would have to provide the testing to any other requesting carrier," Verizon NJ "decided to make the testing mandatory in order to spare VADI the full brunt of the testing costs." (*Id.* at 31). Covad urged the Board to see through Verizon NJ's "transparent tactic" of using its commitment to offer retail DSL services only through a separate affiliate as a vehicle to pass on retail testing costs to competitors and instead make wideband testing optional. (*Ibid.*).

With regard to rates, Covad stated that Verizon NJ did not present evidence to support its claim that the additional costs associated with implementing a wideband testing system would be offset by reduced maintenance dispatch costs. (*Ibid.*). In light of this lack of evidence, Covad urged the Board to reject Verizon NJ's assertion that wideband testing is efficient. (*Ibid.*). Similarly, Covad claimed that Verizon NJ's contention that it will experience "secondary costs" in the absence of wideband testing is not supported by the evidence. (*Ibid.*). Covad argued that Verizon NJ has overpriced wideband testing. (*Id.* at 32). Covad contended that, a refund to be

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<sup>45</sup> New York Line Sharing Rates Order, at 25-27; Massachusetts Decision, at 118; Maryland Line Sharing Rates Order, at 21.

received by VNJ, should be applied to reduce wideband testing costs, that Verizon NJ's use of low fill factors caused the rate for wideband testing on a single line to include the costs of providing testing equipment and software for more than one line, and that VNJ had not assigned any wideband testing costs to its retail operations. (Id. at 32-33). Covad urged the Board to discount the wideband testing rate, after the adjustments are made, by 50%, and recommended adoption of a \$0.20 per line wideband testing rate on an optional basis. (Id. at 33).

## **11. Cooperative Testing**

### **Verizon NJ Position**

Verizon NJ explained that it "proposed a cooperative testing charge to recover the costs [it] incurs at the CLECs' request to cooperatively test loops over which CLECs will provide service." (VNJb at 194). Verizon NJ asserted the charges proposed are supported by the number of work steps associated with the testing, and the fact that the test must be completed twice for a fifth of the orders. (Id. at 195). According to the Company, the test cannot be done by Verizon NJ technicians when they complete cross-connects because it cannot be done on a stand alone loop. (Ibid.). In support of this charge, Verizon NJ averred that the Act permits ILECs, like Verizon NJ, to recover costs incurred to provide CLECs the ability to interconnect to their networks. (Id. at 194, citing 47 U.S.C. §251(c)(3)). Verizon NJ claimed that this testing is an integral part of any provisioning job because it ensures continuity between Verizon NJ's and the CLECs' network, and the CLECs requested this type of testing during the collaborative effort in New York. (Id. at 195).

In response to Covad's argument that CLECs should not be charged for the costs associated with cooperative testing, Verizon NJ argued that because a cooperative test "involves a Verizon NJ technician working with the CLEC's test desk to ascertain that there is a good circuit for the entire path," it must incur costs for which it is entitled to reimbursement. (VNJrb at 176). Additionally, Verizon NJ cited for support a Pennsylvania decision that rejected Covad's argument that a cooperative testing charge should not be imposed. (Ibid.).

### **Advocate Position**

According to the Advocate, cooperative testing is the procedure in which Verizon NJ and a CLEC collaborate on testing new loops on the day of installation to ensure that the loops are working. (Ab at 132). Because cooperative testing ensures that Verizon NJ is delivering acceptable loops to a CLEC, the Advocate argued that the Board should disallow the charge

proposed by Verizon NJ for this service. (*Id.* at 132). The Advocate claimed that cooperative testing is only necessary because of Verizon NJ's "shortcomings" or errors in providing loops to CLECs. (*Ibid.*; Arb at 52). The Advocate also argued that the CLECs must already pay for their own involvement with the testing and should not be forced to pay an additional charge imposed by Verizon NJ. (Ab at 132; Arb at 52). The Advocate, therefore urged the Board to prohibit VNJ from charging CLECs for cooperative testing, as the Massachusetts Department of Telecommunications and Energy had.<sup>46</sup> (Ab at 132; Arb at 52).

### **Covad Position**

Covad argued that the charges Verizon NJ seeks to recover for cooperative testing should be rejected as duplicative because a CLEC is charged for a central office wiring or a field dispatch and then would have to pay the cooperative testing charge to ensure that work covered by the first two charges was performed. (COVb at 34). Covad also criticized the charge for cooperative testing as improper because both parties benefit from the testing. (*Ibid.*). In support of this position, Covad cited decisions of the Massachusetts Department of Telecommunications and Energy, which found the testing to be mutually beneficial, and the Maryland Public Service Commission,<sup>47</sup> which found that each party should bear its own costs with respect to the testing that conferred a benefit on each party. (*Id.* at 35). Covad argued that the Board likewise should reject VNJ's proposal and adopt a \$0 rate for cooperative testing. (*Ibid.*) At a minimum, Covad maintained that charge should be waived whenever it is VNJ's fault that a loop does not properly work, and VNJ should have the burden to provide proof of instances in which is entitled to compensation. (COVb at n. 148).

## **12. DSL Over DLC/PARTS**

### **Verizon NJ Position**

Verizon NJ asserted that the issues related to the unbundling of DSLAM functionality or DSLAM equipment at remote terminals ("RTs") were not ripe for resolution. (VNJb at 206). Verizon NJ cited to the FCC's Line Sharing Reconsideration Order to support its position that it has no obligation to unbundle DSLAM functionality or DSLAM equipment at remote terminals under the current circumstances because Verizon NJ has not deployed DSLAMS at RTs. (*Id.* at 205). Notwithstanding this argument, Verizon NJ claimed that it was considering the introduction of DSL Over Packet at Remote Terminal Service ("PARTS"), a new wholesale service that would

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<sup>46</sup> Massachusetts Phase III Order, at 113

<sup>47</sup> Massachusetts Phase III Order, at 113; Maryland Line Sharing Rates Order, at 39.

be designed to address the CLECs' concerns. (Id. at 206). Before DSL can be provisioned with the new wholesale service, Verizon NJ pointed out that other equipment, such as installation of new RT equipment, line cards (ADLU), ATM bank control units and optical concentration devices must be added and new OSS must be developed to permit service to be provided. (Ibid.).

Verizon NJ also refuted AT&T's recommendation that Verizon NJ be compelled to provide PARTS as a UNE. Verizon NJ argued that it is satisfying its legal obligations and is under no obligation to provide a new DSL UNE. (VNJrb at 191-193). In support of its position, Verizon NJ cited 47 C.F.R. § 51.319(c)(3)(B), the FCC's rule regarding the unbundling of packet switching and concluded that it did not meet the FCC's four-part test requiring an ILEC to provide unbundled packet switching because it has a tariff provision that allows collocation at RTs and it does not have any packet switching capability for its own use. (Id. at 191-192). Verizon NJ also noted that AT&T had raised the same argument in a rulemaking proceeding pending before the FCC,<sup>48</sup> and VNJ argued that it, therefore, was not ripe for disposition by the Board. (VNJrb at 193-194). Verizon NJ also asserted that, although it "has shared its tentative and preliminary steps toward deployment of PARTS with the Board, no definitive plan has been adopted by Verizon NJ's corporate parent . . . the entity that must make the final determination on the economic feasibility of the deployment of this service." (Id. at 193). Verizon NJ maintained that there was no legal basis for the CLECs to argue that Verizon NJ should be compelled "to make that investment in the PARTS project." (Id. at 194).

### **Advocate Position**

The Advocate described Verizon NJ's past offering regarding access to subscribers served by RTs as "inadequate" and called for "fair and technically up-to-date access to Verizon NJ's remote terminals" for competitive providers of DSL services. (Ab at 132-133). According to the Advocate, Verizon NJ has been stalling its deployment of PARTS and has yet to make commitments to provide the service. (Id. at 133-134). To move the PARTS offering along, the Advocate suggested that the Board actively monitor the progress of Verizon NJ's PARTS proposal, and "order Verizon NJ to specify within 60 days the particular terms conditions and rates associated with the PARTS proposal." (Id. at 134). However, to promote facilities-based

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<sup>48</sup> Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Third Report and Order on Reconsideration in CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket 96-98, FCC 01-26, Third Further Notice of Proposed ("Advanced Services Order") Rulemaking in CC Docket No. 98-147, and Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98 (rel. Jan. 19, 2001), ¶12.

advanced services competition, to which the Advocate asserted the PARTS proposal is anti-  
thetical, the Advocate also recommended that the Board “take all necessary steps to improve  
Verizon NJ’s existing RT collocation “offering and to require Verizon NJ to facilitate line card  
collocation,” which is discussed further below. (Id. at 135).

### **AT&T Position**

AT&T explained that loop facilities, provided using “homerun” copper and “fiber fed” copper,  
connect customer locations to a telecommunications network. (AT&Tb at 222). AT&T argued  
that the fiber-fed copper “usually consists of copper facilities from the customer’s premises to a  
digital loop carrier (“DLC”) system and then fiber facilities from the DLC to the ILEC central  
office.” (Ibid.). To provide DSL service over a fiber-fed DLC system, AT&T noted that  
electronics, such as the DSLAM, must be placed on the copper portion of the loop, which is  
usually done at the RT. (Id. at 223). For homerun copper loops, AT&T described that the  
DSLAM is placed in the central office. (Ibid.).

AT&T also described DSL as a “general term applied to a family of transmission capability.”  
(Ibid.). AT&T further noted, the “actual electronics are a factor in the transmission speed but,  
even for a particular type of DSL electronics, the speed of transmission is a function of the  
length of the copper facility present in the ‘loop’-- the longer the copper the lower the achievable  
maximum transmission rate” because the signal degrades to the point where transmission is no  
longer feasible. (Ibid.). However, according to AT&T, “when VNJ deploys appropriate  
electronics in the remote terminal, the copper portion of the loop may be shortened to only a  
small percentage of the total distance between the customer’s premises and the serving central  
office” and “the copper loop from the customer’s home is connected to fiber in the field ... and  
DSL service may be available to that customer.” (Id. at 223-224). Thus, a critical component in  
the copper/fiber loop, AT&T claimed, is the transmission equipment, generally referred to as  
DLC or next generation DLC (“NGDLC”) that is “necessary to allow customer premises  
equipment, and central office equipment to inter-operate as a communication pathway between  
the customer premises and the central office.” (Ibid.).

AT&T acknowledged that Verizon NJ has not deployed DSLAMS at RTs, but claimed that  
Verizon NJ had plans to do so. (AT&Tb at 224). AT&T argued that even if Verizon NJ  
implements NGDLC as a wholesale service, it should not be accepted because it is inadequate  
and does not address Verizon NJ’s obligation to unbundle local loops for requesting CLECs.

(Id. at 225). To ensure competition, AT&T argued that Verizon NJ should be required to “make the entire unbundled loop available to CLECs regardless of the loop technology it uses,” and “provide access to the next-generation loop as any other unbundled loop, not merely as a ‘wholesale service’.” (Id. at 225-226). AT&T also noted that this issue is also pending before the Federal Communications Commission.<sup>49</sup>

In connection with the deployment of NGDLC, AT&T argued that Verizon NJ should be required to offer the following options:

1. require that VNJ provide access to the entire unbundled loop element, including the DSLAM at the remote terminal and the Optical Concentration Device (“OCD”) at the central office;
2. unbundle DSLAM equipment at RTs (e.g., lease DSLAM line cards at RTs to CLECs); and
3. where possible, permit CLECs to self-supply the required line cards, at CLECs’ request.

[Id. at 228-229].

AT&T explained that its last two options provide an alternative to RT collocation because, it claimed, RT collocation “is not a viable alternative for serving customer[s] except in very narrow situation[s].” (Id. at 229).

AT&T argued that access to the evolving loop architecture, i.e., the NGDLC loops, as a UNE is required by the Act. (Id. at 230). Access to spare pairs and collocation at RTs, according to AT&T, are not viable means through which CLECs can compete with DSL service offered by Verizon NJ through NGDLC. (Ibid.). However, AT&T claimed that to ensure competition for DSL service, Verizon NJ must unbundle all types of loops, not just the NGDLC loop. (Ibid.). AT&T also argued that Verizon NJ’s decision to offer NGDLC as a wholesale service is contrary to the Act, which provides for access to a UNE. (Id. at 231). AT&T urged the Board to prevent Verizon NJ’s NGDLC wholesale service from being used “as a vehicle to evade its unbundling obligation.” (Ibid.).

AT&T also urged the Board to require Verizon NJ to provide line splitting over an NGDLC loop architecture because, as AT&T claimed, it is technically feasible to do so. (Id. at 232-233).

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<sup>49</sup> See Advance Service Order, supra.

AT&T argued that the Board “was presented with a sufficient record to establish the parameters of Verizon NJ’s obligations where it deploys NGDLC” and should be proactive in establishing a pro-competitive framework. (AT&Trb at 110-111). In support of its position to move the deployment process along, AT&T noted that the New York Public Service Commission had required Verizon to inform it and data competitors as business decisions are made to deploy next generation digital loop carrier capable of supporting DSL services and “required Verizon to make opportunities to serve customers using NGDLC available *simultaneously* to both competitors and its data affiliate.”<sup>50</sup> (*Id.* at 111). AT&T argued that the Board should do likewise. (*Ibid.*)

### **13. Line Cards/Access to Remote Terminals**

#### **a. Remote Terminal Collocation**

##### **Verizon NJ Position**

Verizon NJ stated that in situations in which physical collocation at the remote terminal is necessary, it “will permit CLECs to collocate in its remote terminal equipment enclosures (“RTEEs”) on a first-come, first-served basis in quarter-bay space increments, subject to the CLEC negotiating or obtaining any necessary rights-of-way or easements.” (VNJB at 206). In addition, Verizon NJ committed to provide CLECs with any relevant information regarding the “identity and addresses of the Feeder Distribution Interface (‘FDI’) subtending the RTEE in which the CLEC is interested” during the loop qualification process. (*Id.* at 206-207). Should a CLEC need additional information, Verizon NJ explained that a CLEC may obtain such information by “requesting the served addresses, a preliminary records review and/or a site survey.” (*Id.* at 207). Verizon NJ also claimed that it will make “any spare power, HVAC, conduit, etc., available to the CLEC at the approved rates, and will charge CLECs accordingly where additional capacity must be built to meet their requests for space.” (*Ibid.*). Verizon NJ further stated that it would be its responsibility to perform any necessary cross-connect work. (*Ibid.*). It asserted that “[t]hese terms and conditions are fair and will enable CLECs to obtain space on a level plain” with it. (*Ibid.*).

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<sup>50</sup> Proceeding on Motion of the Commission to Examine Issues Concerning the Provision of Digital Subscriber Line Services, Opinion and Order concerning Verizon’s Wholesale Provision of DSL Capabilities, Case 00-C-0127 (N.Y.P.S.C., October 31, 2000), at 25; Order Granting Clarification, Granting Reconsideration in Part and Denying Reconsideration in Part, and Adopting Schedule, (N.Y.P.S.C., Jan. 29, 2001), at 15.

Verizon NJ proposed individual case basis (“ICB”) charges for the majority of the non-recurring rate elements associated with remote terminal collocation in addition to a standard non-recurring application fee of \$2,500.00. (*Ibid.*). Verizon NJ argued that the application fee is warranted since applications for remote terminal collocation will be processed in the same manner as applications for central office collocation, thus, subjecting Verizon NJ to many of the same costs as at the beginning of the provisioning process. (*Ibid.*). However, because the potential magnitude of the variation in completing requests for remote terminal collocation, given that, as Verizon NJ claimed, there are over forty different types of RTs, Verizon NJ asserted that it will propose standard rates once it obtains experience in remote terminal collocation. (*Ibid.*). For now, VNJ sought to utilize the ICB process to “permit Verizon NJ and the CLECs to work together to meet their individual requests for remote terminal collocation.” (*Id.* at 208).

Verizon NJ also explained that escorts to its RTs are necessary because of the need to ensure the security of Verizon NJ's network, and under the Act and the FCC's rules,<sup>51</sup> Verizon NJ is permitted to recover the costs it incurs to secure its network. (*Ibid.*). In making its decision to utilize escorts, Verizon NJ represented that it had weighed the benefits of implementing other types of security, such as cameras and card readers, with the risks of vandalism being committed in a RT and customer service being detrimentally affected. (*Ibid.*). Verizon NJ also claimed that the space alone required for other types of security would not be practical in RT situations, and other security would not be cost effective. (*Ibid.*).

Verizon NJ criticized the Advocate's proposal of basing rates on average costs for not suggesting any evidence that the Board should rely upon in making its rate determination. (VNJrb at 195). Verizon NJ also argued that the Advocate's recommendation that the “recurring rates for Collocation at Remote Terminal Equipment Enclosures (‘CRTEE’) be cut in half lacked any reliable evidentiary support.” (*Id.* at 196).

Verizon NJ claimed that it incurs costs for which it should be compensated for adding line sharing to an existing collocation arrangement because the line sharing constitutes an augment to that arrangement. (*Ibid.*). Where the collocation arrangement is already properly configured for line sharing and no rearrangements or augments are required, Verizon NJ admitted that the

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<sup>51</sup> See In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, FCC 98-48, First Report and Order, ¶ 48 (“March 31, 1999 Advanced Services Order”).

charge should not apply. (Id. at 197). However, Verizon NJ pointed out that charges should apply if the cables need to be re-groomed to the appropriate sequencing for line sharing, or to insert test heads, or termination blocks need to be added, or other changes are required, and it criticized witnesses Murray and Riolo's proposal for a simpler application process for augments as misleading. (Ibid.).

Verizon NJ also argued that the Advocate's suggestion that collocation in RTs should be on a rack-inch basis is flawed because unless Verizon NJ were to make collocation available on a basis which allowed multiple CLECs to each take individual inches of space on a rack, such a charge would be meaningless. (Id. at 198). The demarcation point for a physical CRTEE arrangement under its proposal will, Verizon NJ described, be at a "cross-connect panel mounted in the CLEC's equipment bay or relay rack." (Ibid.). Therefore, VNJ contended it would make no sense to have a rate based on inches on a rack. (Ibid.).

### **Advocate Position**

The Advocate claimed that "Verizon NJ's proposed terms and conditions make the prospect of successful RT collocation seem even more remote." (Ab at 135). The Advocate asserted that some important information is missing and the information Verizon NJ provides regarding subtending FDIs, easements and other aspects of the RT are of limited use. (Ibid.).

The more serious flaw in Verizon NJ's offering, the Advocate argued, is the ICB pricing. (Ibid.). According to the Advocate, the ICB pricing is "attached... to some potentially expensive items, such as the normally large (and potentially entry-barring) nonrecurring charges for Site Survey and Engineering and Implementation." (Ibid.). The Advocate recommended that the Board take all necessary steps to improve Verizon NJ's existing RT collocation offering and to require Verizon NJ to facilitate line card collocation. (Ab at 134-135).

## **b. Line Card Collocation in Remote Terminals**

### **Verizon NJ Position**

Verizon NJ argued that it is not obligated to provide "plug and play" DSL line cards inside Verizon NJ's equipment for CLECs. (VNJb at 209). In support of its position, Verizon NJ pointed out that FCC in the "UNE Remand Order expressly declined to require that the individual piece parts of equipment that enable high speed data transmission . . . generally need

to be made available as network elements,” and the FCC had found that DSL deployment would not be impaired without such unbundling. (*Ibid.*; UNE Remand Order, ¶¶ 306-07). Verizon NJ noted that the FCC had further clarified that “[t]he incumbent will be relieved of this unbundling obligation only if it permits a requesting carrier to collocate its DSLAM in the incumbent’s RT, on the same terms and conditions that apply to its own DSLAM,.” (*Ibid.*, quoting UNE Remand Order, ¶313). Verizon NJ made it clear that it “has not deployed in its RTs -- or anywhere else - the DLC equipment equipped with the line card DSLAM technology, nor does it have any such line card DSLAMs in use today in the network.” (*Ibid.*). Verizon NJ also pointed out that the FCC is now considering whether any further requirements should be imposed, and has solicited comments on whether a CLEC may physically or virtually collocate its line card at the RT by installing it in the ILEC’s DLC for line sharing, and whether ILECs, whose RT equipment provides DSLAM functionality through the use of a line card, should be required to split the high and low frequency portions of the loop at the RT and route the data traffic from the high frequency portion to the ILEC’s central office. (*Id.* at 209-210 citing Line Sharing Reconsideration Order, ¶¶56,59). In light of the FCC’s position and the evidence in the within matter, Verizon NJ argued that the issues related to line card collocation are not ripe for resolution. (*Id.* at 210).

### **Advocate Position**

The Advocate maintained that the Board should order “Verizon NJ to add to its tariffs a plug and play option and to take immediate steps to cooperate with competitive carriers to implement that option in New Jersey.” (Ab at 137). According to the Advocate, contrary to VNJ’s claims, the plug and play option is technologically feasible, and the Advocate argued that Verizon NJ has plans to “offer line sharing through line cards at the RT.” (*Id.* at 136). The Advocate claimed that the Pennsylvania Public Utilities Commission and the New York Public Service Commission have, respectively, explored called for a technical conference to explore means by which CLECs can provide advanced services to consumers served by digital loop carrier, and concluded that when technically feasible, customers served by digital loop carrier must have access to xDSL service offered them by data LECs. (*Id.* at 136-137).

### **AT&T Position**

AT&T claimed that the restrictions in Verizon NJ’s proposal combined with the inherent design limitations of RTs “effectively destroy physical collocation at a remote terminal as a viable option.” (AT&Tb at 233). For a CLEC to deploy its own electronics, AT&T explained, it must

have access to the physical location, power to run equipment, sufficient heat, air conditioning, and sufficient copper facilities. (Ibid.). In light of these needs, AT&T asserted that interconnection is not practical at the RT. (Ibid.). AT&T maintained that collocation at the FDI was also not a viable alternative because FDIs are too small to accommodate deployment of equipment and electronics, lack the necessary power, and would force CLECs to obtain rights-of-way. (Ibid.). It further contended that "as to both RTs and FDIs, CLEC collocation is not an economically reasonable alternative." (Id. at 234). AT&T warned that the Board must not allow Verizon NJ "to evade its unbundling obligations as a result of these technology changes" (Id. at 234), but the Board should find that RT collocation is not a viable means of obtaining access to NGDLC loops. (AT&Trb at 113). AT&T urged the Board to "direct VNJ to comply with its unbundling obligations that support access to the NGDLC so that competitors have the opportunity to provide advanced services to all customers in VNJ's service area, not a subset ....selected by VNJ." (Id. at 114).

#### **14. Splitter Related Charges**

##### **a. Splitter Installation**

##### **Verizon NJ Position**

Verizon NJ explained that a CLEC is free to select a vendor to install a splitter or elect to have Verizon NJ provide this service. (VNJb at 195). Verizon NJ proposed a rate to recover the costs it claimed that it incurs if a CLEC opts to request that Verizon NJ install a splitter, and derived the rate "by applying an EF&I [engineering, furnishing and installation] factor to the material cost of the equipment," which it asserted is the same method it has used to develop installation costs for many years. (Id. at 195-196). Verizon NJ refuted CLECs' claims that it over-estimated costs and stated that "the CLECs failed to produce any evidence, such as vendor invoices from their own splitter installations, to rebut Verizon NJ's costs, despite the fact that they have had numerous line splitters installed in their collocation cages in Verizon's central offices." (Id. at 196). In response to an argument by Covad that splitter related costs should be exempt from the EF&I factor, Verizon NJ stated that "any equipment in a particular category is likely to have idiosyncratic cases where the costs deviate from the category's average" and "[t]his does not mean that the overall average is not applicable or that splitter installation should be exempt from bearing EF&I costs." (Ibid.).

Verizon NJ claimed that Covad's proposed splitter installation cost consisting of thirty minutes of installation labor is not based on any factual information, "totally unrealistic, does not account

for any of the work involved with the administration and coordination of splitter installations, and is purportedly based on a frame-mounted splitter, which . . . does not exist." (VNJrb at 177). Verizon NJ stressed that the EF&I factor "captures vendor and engineering (i.e., planning, design, and implementation), installation, material related charges, preparing ('M&P'), plant testing, and plant acceptance." (Ibid.). Verizon NJ asserted that Covad's view of a splitter installation, joined in by the Advocate, "demonstrates either the witnesses' complete lack of knowledge in this area or their willful attempt to disregard reasonable recovery calculations in favor of their own self-interest." (Ibid.). It further argued that if the CLECs "believe that the work can be done less expensively, they have always been free to hire a vendor directly" and would then not have to pay VNJ to do it for them. (VNJb at 197; VNJrb at 177). If the CLEC opts to utilize VNJ for the installation, however, VNJ maintained that its splitter installation charge, premised on the use of the EF&I factor, is reasonable. (VNJrb at 178).

### **Advocate Position**

The Advocate argued that Verizon NJ provided "no justification for using the EF&I factor to compute the costs at issue here." (Ab at 118). The Advocate claimed that use of the EF&I factor was inappropriate because the "factor is based on embedded information about costs and investments, and intrinsically does not reflect forward-looking costs." (Id. at 119). It also contended that the "engineering" and "furnishing" components of the EF&I factor will already have been paid for by competitors before actual splitter cards are installed. (Ab at 119). It maintained that engineering costs are at least partially recovered through collocation charges and that CLECs furnish their own splitters. (Arb at 45). The Advocate also rejected Covad's proposed rate for splitter installation, which it found to be underestimated, because the Advocate asserted it focused "solely on the physical work involved in actually mounting splitter equipment in the central office, and ignores any costs activities such as administration, planning, design, or testing." (Id. at 120).

### **Covad Position**

Covad argued that Verizon NJ's splitter installation estimate, which applied the EF&I factor for digital circuit equipment to the estimated materials cost of a splitter, was deficient in the following three ways: (1) the EF&I factor far exceeds the cost to install a CLEC-provided splitter; (2) Verizon NJ failed to demonstrate that the EF&I factor for digital circuit equipment properly applies to splitter installation; and (3) Verizon NJ "developed a series of nonrecurring provisioning charges for loops, all of which depend upon studies of labor times necessary to

perform various provisioning tasks (in the same manner that splitter installation is a labor-intensive task) without relying upon a general factor." (COVb at 23-24). Covad argued that the Board should reject VNJ's proposal to recover splitter installation costs through application of an EF&I factor. Instead, Covad urged the Board to adopt its proposed rate for installing competitor-owned splitters, which was based on its witness Riolo's testimony on tasks and labor times, and also its proposal "to include splitter installation costs in a splitter recurring rate of \$0.91 per line per month when Verizon NJ owns the splitter." (Id. at 24-25; COVrb at 4).

## **b. Splitter Administration and Support**

### **Verizon NJ Position**

According to Verizon NJ, it "developed two different administrative and support ('A&S') charges -- one for Option A, where the CLEC's splitter is located in its collocation cage, and one for Option C, where the splitter resides in Verizon NJ's portion of the central office." (VNJb at 197). Under Option A, the CLEC purchases and installs the splitter in its collocation cage and takes care of all maintenance. Under Option C, the CLEC purchases the splitter and either the CLEC or Verizon NJ installs it in Verizon NJ's space. Under Option C, Verizon NJ maintains and supports the splitter. (Id. at 197/n. 687). Verizon NJ further explained that "[t]he sole difference between the two charges is that the Option C A&S charge enables Verizon NJ to recover the maintenance costs associated with the Option C splitter, which is located in Verizon NJ central office space and maintained by Verizon NJ" and "[t]he additional costs that make up the remainder of the Option C A&S charge (and the entirety of the Option A A&S charge) include wholesale administrative, customer care, and other support expenses." (Id. at 197). Verizon stated that the wholesale marketing expenses included in the A&S charge "are associated with product management and customer interfacing functions for the wholesale market." (Ibid.). In addition, the A&S charge "recovers other support expenses for information management, research and development, procurement, and capital costs associated with non-revenue producing investments in motor vehicles, special work equipment, land and buildings (excluding central office buildings), general-purpose computers, furniture, and official communications and support equipment." (Id. at 198). According to the Company, "[b]oth Option A and Option C CLECs benefit from these functions and thus costs for these functions are attributed to both classes of CLECs." (Ibid.).

With regard to Covad's assertion that an A&S charge should not be applied to Option A, Verizon NJ argued that with the exception of maintenance costs, which are not included in Option A, all the "remaining components of the A&S charge are totally appropriate for Option A." (VNJrb at 178-179) Verizon NJ also refuted Covad's claim that marketing costs should not be recovered from CLECs, stating that it would be "unduly discriminatory to recover such costs only from Option C CLECs." (Id. at 179). Similarly, as to "other support" costs, Verizon NJ argued that "there is no reason why Option A CLECs should be uniquely exempt from these charges, since they cause the underlying costs to precisely the same extent as Option C CLECs." (Id. at 180.).

In addition, Verizon NJ refuted Covad's claim that the New York Public Service Commission rejected a similar attempt to recover A&S charges from Option A CLECs, stating that the "Commission has not yet spoken its final word on the application of the splitter A&S charge."<sup>52</sup> (Id. at 180-181). Verizon NJ also asserted that the "Massachusetts Department of Telecommunications and Energy has endorsed the principle of applying splitter A&S rates calculated in the same manner as the rates proposed here."<sup>53</sup> (Id. at 181). Verizon NJ additionally argued that Covad offered no basis for its argument that Verizon NJ "has not supported its claim for recovery of the maintenance expense for A&S attributable to Scenario C." (Ibid.).

### **Advocate Position**

The Advocate supported the analysis of the Covad witnesses and urged the Board to reject Verizon NJ's A&S charges. (Ab at 102-121). The Advocate argued that Verizon NJ presented no justification for applying an annual cost factor ("ACF") for administration and support to Option A CLECs. (Id. at 121). It asserted that the ACF is computed on the basis of Verizon NJ's expenses and investments, and Verizon NJ had not identified a rational relationship between the costs that this ACF covers and an Option A CLEC's splitter investments. (Ibid.) It noted further that "Option A CLECs administer the splitter in their collocation area and argued that CLECs and their suppliers answer for the marketing and support costs that Verizon NJ's ACF purports to recover." (Ibid.). It claimed that "[t]here is no sense in which an Option A

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<sup>52</sup> Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements, Case 98-C-1357, Order Denying Petition for Rehearing (NY PSC Oct. 3, 2000), pp. 6-7.

<sup>53</sup> Investigation by the Department on its Own Motion as to the Propriety of the Rates and Charges Set Forth in M.D.T.E. No. 17, Filed With the Department by Verizon New England, Inc. d/b/a Verizon Massachusetts on May 5 and June 14, 2000, to Become Effective October 2, 2000, D.T.E. 98-57-Phase III Order, p. 120.

CLEC's decision to purchase splitters and place them in its collocation area causes Verizon NJ to incur any of the costs it seeks to recover with this charge." (Ibid.). The Advocate also noted that Option A CLECs pay collocation charges for the space where they house their splitters, and asserted that those charges undoubtedly include costs based on the ACFs that Verizon NJ seeks to apply with this charge. (Ibid.). As applied to Option C CLECs, the Advocate also argued that the splitter administration and support charge overstates the maintenance costs it purports to recover, because it uses Verizon NJ's EF&I factor to determine splitter investment, which the Advocate contended is based on embedded, company-wide costs, and because "[a] splitter is a passive device with a long life that requires very little maintenance." (Id. at 122).

### **Covad Position**

Covad objected to the proposed charge for A&S for Option A, which involves the CLEC providing and maintaining its own splitters, because it alleged that Verizon NJ is not involved in any of processes for which it is charging, i.e., product management, advertising and customer interfacing functions. (COVb at 20-21). Covad argued that the New York Commission had rejected A&S charges because they resulted in overrecovery.<sup>54</sup> Covad also challenged the inclusion in the charges for both Options A and C of wholesale marketing and other support A&S charges. (Id. at 21). Noting that VNJ has not advertised UNEs and therefore, the Board must conclude that the advertising costs are for VNJ's retail marketing, Covad argued that "[w]hatever the Board does with the wholesale marketing factor, it should order Verizon to remove any advertising costs." (COVrb at 5; COVb at 21-22). Covad also claimed that the maintenance expense for A&S charges attributable to Option C did "not accurately represent the maintenance costs associated with splitters, which its witness Riolo testified, require little, if any, maintenance." (Id. at 22).

### **c. Splitter Equipment Support**

#### **Verizon NJ Position**

Verizon NJ explained that if a CLEC opts "to have Verizon NJ place the splitter in the CLEC's collocation area, Verizon NJ has proposed a monthly charge to recover the in-place cost, including the relay rack on which a splitter is mounted." (VNJb at 198-199). Verizon NJ argued that the counter monthly recurring price per line charge proposal of Covad witnesses Murray and Riolo (See Exh. Covad 1 at 67) should be rejected because (1) the witnesses making that

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<sup>54</sup> Opinion and Order Concerning Line Sharing Rates, Case 98-C-1357, Opinion No. 00-07, at 33 (N.Y. P.S.C. May 26, 2000) ("New York Line Sharing Rates Order").

proposal made no showing that these specific costs are, in fact, recovered through this charge and (2) CLECs should only pay these costs in the instances where Verizon NJ locates a splitter in Verizon NJ's equipment space. (*Id.* at 189-190, 199). Verizon NJ also argued that Covad's proposed costs for equipment support was flawed because the splitter shelf support charge reflects the assumption "that the splitter and plug-ins are purchased in shelf increments." (VNJrb at 181-182). Verizon NJ explained that it had assumed that splitters would be purchased in increments of entire shelves, including plug ins, which it asserted is the most economical increment for such purchases because "individually purchasing the 24 splitter cards, would drive the shipping and handling costs up to ridiculous levels." (*Id.* at 182). Verizon NJ further explained that it "based the cost for the equipment bay and its associated installation on the portion of the equipment bay required for the entire shelf because Verizon NJ incurs the cost of the equipment bay all at once, whether the CLEC orders one or up to 96 splitter circuits on that shelf," and it asserted that if, instead, it collected equipment a costs on per line basis, the costs would be higher. (*Ibid.*).

#### **d. Splitters On The Main Distribution Frame**

##### **Verizon NJ Position**

VNJ proposed to apply two non-recurring POTS bay and cable and frame termination charges to each line sharing arrangement. These charges are premised upon assumptions that line-sharing arrangements will be provided by adding an intermediate POT bay for connecting splitters, which necessitates the cross-connections and dual cabling covered by the charge. Verizon NJ contended that its assumptions as to non-frame mounted splitters were reasonable. (VNJb at 200). It argued that the Board should reject claims that instead an assumption of the deployment of frame-mounted splitters should have been used, because, VNJ maintained that installing splitters in the main distribution frame ("MDF") in Verizon's central office would not reflect efficient practice. (VNJb at 199-200; VNJrb at 182-183). As inefficiencies associated with frame-mounted splitters, VNJ cited that such splitters occupy a considerable amount of frame space which would require 50% spare frame capacity to support line sharing for 15% of the existing loops; that MDF space is very limited and could not accommodate such an arrangement; that such splitters could increase the amount of central wiring required to support a line sharing arrangement, thereby increasing CLECs' costs; and that VNJ is unaware of splitters that can be operated on the MDF that have met the Network Equipment Building Standards. (VNJb at 200). Verizon NJ contended that AT&T's argument for installing splitters on the MDF "is presented from the perspective of a CLEC, not taking into consideration the

interests of other telecommunications customers." (VNJrb at 182). Verizon NJ explained that MDF space is limited and the "MDF is used primarily for the provisioning of voice grade service, which Verizon NJ has a duty to provide in a safe, adequate and proper manner." (*Ibid.*). Verizon NJ also asserted that "the record evidence shows that for splitters that are not in the CLEC's collocation node, the first choice for Verizon NJ (and the most widely deployed), is a relay rack mounted splitter." (*Id.* at 183).

### **Advocate Position**

The Advocate concurred with Covad's witnesses Murray and Riolo that VNJ's assumption as to POTS bays for connecting splitters should be rejected because the "more efficient approach, and the approach that must be assumed for TELRIC costing purposes, is to mount splitters on the main distribution frame ('MDF')." (Ab at 123). It noted that the FCC had ruled that ILECs may not require CLECs to use an intermediate interconnection arrangement in lieu of direct connection to the ILECs network "if technically feasible."<sup>55</sup> The Advocate argued that frame-mounted splitters are available and that Covad's witness Riolo had referenced two manufacturers promoting frame mounted splitters complying with industry standards. (Ab at 125). The Advocate also dismissed Verizon NJ's concern that mounting splitters on the MDF would exhaust capacity, asserting that such congestion is not representative of an "efficient construct that should be employed in a TELRIC analysis" and "there is reason to doubt the severity of the congestion problem... and that it will persist." (*Id.* at 125). The Advocate, therefore concluded that frame mounted splitters are an available and efficient technological choice, and it urged the Board to adopt the Covad witnesses' recommendation and decrease by 50% VNJ's POTS bay and cable and frame termination charges. (*Ibid.*).

### **AT&T Position**

AT&T argued that "efficiency requires that line splitters be located on, or as close as possible to, the Main Distribution Frame (MDF) to minimize quality of service and cost concerns." (AT&Tb at 219). AT&T explained that "[t]his location reduces excess cabling, which minimizes the potential for service quality degradation" and "[c]lose proximity to the MDF means placement will not occur in a remote part of the central office, which would dramatically inflate the costs." (*Ibid.*). AT&T further argued that "if VNJ chooses to be inefficient and place line splitters

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<sup>55</sup> (March 31, 1999 *Advanced Service Order*, ¶42.

(including line splitters that it may provision for service to its data affiliate) in a remote location in the central office, then VNJ should bear the costs of those choices." (Ibid.).

**e. Splitters Made Available By Verizon NJ A Line At A Time Or Shelf At A Time**

**Verizon NJ Position**

Verizon NJ argued that the "CLECs' demand for a line- or shelf-at-a-time splitter option should be rejected." (VNJb at 201). Verizon NJ stated that if "CLECs find it beneficial to install and utilize splitters on this basis, they are free to do so themselves (individually or through a joint effort) using their existing splitters with other CLECs." (Ibid.). For example, Verizon NJ explained that "a CLEC could buy the splitters, place them in Verizon NJ's office, and let other CLECs use them on a line-at-a-time basis; or, a consortium of CLECs interested in sharing could buy the equipment together and share it." (Ibid.). In support of its argument, Verizon NJ asserted that there was no reason to require it "to purchase the common equipment for CLEC use, and to bear additional investment costs and risks, especially in this area of fast-changing technology where other new technologies, for example, cable modems and wireless solutions, could displace this kind of high speed transmission capability." (Ibid.).

Rebutting AT&T's claim "that it would be more efficient for the ILEC to make splitters available a line or shelf at a time, whenever CLECs want them," Verizon NJ stated that "[t]he record evidence reveals, however, that it would be far from efficient or reasonable to require Verizon NJ to purchase and own such splitters and make them available on that basis to an individual CLEC." (VNJrb at 183). Noting "the absence of any reliable forecasts of aggregate or individual CLEC line-sharing splitter demand," Verizon NJ claimed that "[i]t is clear that the splitter market is evolving to more feature-rich splitters, and should Verizon NJ be required to purchase splitters for CLECs, the Verizon-owned splitters would likely become obsolete or underutilized." (Id. at 183,184). Verizon NJ further argued that "[b]y requiring line-by-line provisioning, all AT&T is trying to do is delay and possibly avoid altogether the day when it will have to pay for the equipment it would require Verizon NJ to purchase on its behalf if and when AT&T finds a use for a line capacity on the splitter." (Ibid.). Verizon NJ warned that "there may be compatibility issues if multiple CLECs want to use the same Verizon NJ splitter on a line-at-a-time basis, because not all splitters work with all types of DSLAMs." (Ibid.). Verizon NJ concluded that "the CLECs offer no justification -- and there is none -- for requiring Verizon NJ to both own the splitters on CLECs' behalf and to provide them on a bit-by-bit basis, according to CLEC demands." (Id. at 185).

### **Advocate Position**

The Advocate argued that Verizon NJ should be compelled to provide splitters to CLECs for line splitting on a per-line basis. (Ab at 129). The Advocate reasoned that such a requirement would, among other advantages, promote efficiency by decreasing the number of splitters in each office and simplifying the movement of customers from one provider to another. (Ibid.).

### **AT&T Position**

AT&T alleged that it would be more efficient for the ILEC to make splitters available a line or shelf at time, whenever the CLEC wants them. (AT&Tb at 209-211). Specifically, AT&T argued that such a situation "would stimulate competition in the advanced services market by allowing CLECs to quickly respond to consumer demand just as VNJ can do today." (Ibid.). In addition, AT&T argued that "[l]ine-at-a-time splitter deployment allows a shelf of splitters to be shared among CLECs and thus optimizes splitter deployment" and "allows CLECs to compete on a more even footing." (Id. at 210, 211).

## **15. Line and Station Transfer**

Other than Verizon NJ, no party addressed this issue. Verizon NJ stated that its proposed rate for migrating a Verizon NJ voice customer from a non-xDSL-capable line to an xDSL-capable line ("line and station transfer") so CLECs can meet customers' xDSL needs via a line sharing arrangement was developed at the CLECs' request and is reasonable. (VNJb at 202). Verizon NJ explained that the non-recurring rate was "developed using the same methodology Verizon NJ used to develop its other non-recurring rates" and "recovers coordination costs, as well as costs for the central office and field technicians who make the transfer." (Ibid.).

## **16. Policy Where Loops Unavailable**

Other than Verizon NJ, no party addressed this issue. Verizon NJ set forth a proposal in the event loops are unavailable, which consisted of the following provisions:

First, where defective facilities exist or where the existing customer is on DLC, Verizon will perform a pair swap if good copper facilities exist (charging for such work and reflecting necessary additional work time in the relevant intervals). Second, where facilities need conditioning, Verizon will provide conditioning through the Digital Design Loop Process. Third, where no facilities are available at all or where no qualified copper facilities are available, Verizon will not build new copper facilities.

[VNJb at 202].

Verizon NJ explained that in the third scenario "CLECs generally have alternatives, such as purchasing an unbundled subloop from Verizon (and thus obtaining the copper portion of the loop), provisioning IDSL over fiber, or using wireless or a cable-based network." (Ibid.).

## **17. Engineering Work Orders**

### **Verizon NJ Position**

The engineering work order process includes general preliminary functions associated with loop conditioning activities, including verifying the availability of facilities, writing the work order, and preparing the bill generated as the result of construction. (VNJb at 204). Verizon NJ identified the work steps involved and consulted its employees to determine the average time for completion of engineering work orders. (Ibid.). Verizon NJ argued that "Covad's estimates of the time it should take to perform the work activities incorporated into the engineering work order are unfounded or based on an inaccurate understanding of the process." (VNJrb at 189). Noting that it "obtained the work times it used to develop costs from over 150 engineers, with experience levels averaging approximately 12 years," Verizon NJ argued that the Board should rely on its more extensive and reasonable cost input, "as opposed to Covad's 'guesstimates' based solely on the opinion of one individual -- Mr. Riolo, an outside contractor witness who has not done any such work in many years, if at all." (Ibid.).

### **Advocate Position**

The Advocate challenged Verizon NJ's inclusion of a mandatory engineering work order for every conditioning job. (Ab at 112-113). The Advocate urged the Board to reject Verizon NJ's "inflated estimates" in favor of Covad's estimates, which the Advocate asserted rectified the errors in Verizon NJ's estimates by conducting "a point-by-point task time analysis of the engineering work order function," making "forward-looking assumptions about the technology used ... and provid[ing] a set of efficiency based work times. (Id. at 113).

### **Covad Position**

Covad argued that Verizon NJ's engineering work order charge was vastly overstated because the proposed task and task times incorporated in the charge did not reflect efficient, forward looking practices. (Exh. Covad 1, pp. 135 - 145). Specifically, Covad witness Riolo conducted a point-by-point task time analysis of Verizon NJ's engineering work order charge and restated

Verizon NJ's proposed work times. (Ibid.). According to Covad, its restated engineering work order cost should not be assumed for each service request requiring conditioning because it argued "that an efficient company would only need to issue one Engineering Work Order for each job to condition multiple loops." (Id. at 145). Covad concluded that "at most, the Board should only allow Verizon NJ to recover the restated Engineering Work Order cost on a per unit basis, with the cost spread across the average number of loops to be conditioned per order." Ibid.

### **Board Discussion - DSL**

After careful review of the record and the parties' positions, the Board **FINDS**:

#### **Rates**

Based upon the record in this matter, we **FIND** that, consistent with Verizon NJ's proposal and our previous findings in the Board's October 6, 1999 Summary Order, the appropriate rate for a dedicated or stand-alone DSL loop is the rate for a standard 2-wire or 4-wire loop. The record reflects that no party disputed this fact.

#### **Line Sharing**

Having carefully reviewed the positions of the parties and the record, the Board **FINDS** that the seven conditions of Verizon NJ's line sharing UNE offering must be modified to eliminate the condition that excludes line sharing in conjunction with Platform or EEL arrangements. Since line sharing is technically only provided when Verizon NJ provides the voice component, the reality of this modification is it has no effect. However, so as to avoid any confusion as to the line sharing requirements, we **DIRECT** the Company to eliminate the aforementioned condition as part of its offering. As modified, we are confident that Verizon NJ is meeting its obligation to provide line sharing to CLECs.

With regard to Verizon NJ's condition that would sever its responsibility to continue to provide the loop for the express purpose of permitting CLECs to provision xDSL service when Verizon NJ is no longer providing voice service, we agree with the Company. Verizon NJ is under no legal obligation to continue to provide the unbundled loop solely to permit the CLEC to provide xDSL service. The Company, however, is correct in making the loop available at the unbundled

rate associated with the loop to the CLEC to continue its provision of xDSL service or allowing the CLEC to disconnect service.

### **Line Splitting**

Line splitting, unlike line sharing, involves the simultaneous transmission of voice and data by one or two carriers other than the ILEC, i.e., a CLEC provides both the voice and data component, or provides either voice or data while another carrier provides the other. It differs from line sharing in that the ILEC does not provide the voice service. In reviewing the record in this matter, the parties generally agreed that line splitting is an FCC requirement that Verizon NJ is obligated to offer. The parties generally disagreed whether line splitting should be permitted in the UNE-P environment.

Verizon NJ argued that from a technical standpoint, once line splitting occurs in UNE-P arrangements the UNE-P is no longer a UNE-P circuit because the completed circuit must be uncombined and routed to a splitter to permit the high frequency and low frequency portions of the signal to be separated. AT&T argued that line splitting in the UNE-P arrangement would be tantamount to what is required to provide line sharing in which Verizon NJ provides the voice component. We agree with AT&T and are unconvinced by Verizon NJ's argument. We believe that it would be discriminatory not to permit CLECs the same opportunities that are available to Verizon NJ. Therefore, we **DIRECT** Verizon NJ to modify its offering to permit line splitting in UNE-P arrangements.

We disagree, however, with AT&T that the splitter is part of the loop in UNE-P arrangements. The need for a splitter is clearly the result of a Verizon NJ offering that benefits the CLEC and is above and beyond the basic voice offering. Therefore, we **FIND** CLECs must provide their own splitters. Given the fact that CLECs are required to provide their own splitters, nothing in this Order prevents CLECs from sharing splitter arrangements if they believe that it is in their best interest to do so.

### **Splitter Ownership**

Having carefully reviewed the positions of the parties and the record, the Board **FINDS** that the two splitter configurations that Verizon NJ offers to CLECs are reasonable. In addition, the Board **FINDS** that there is no legal basis to require Verizon NJ to invest in splitters and make them available to CLECs or to finance and administer a changing array of splitter types for use

by a number of CLECs. Clearly, splitters are not part of the existing list of network elements that Verizon NJ is required to unbundle. We note, however, that splitter ownership and control is currently the subject of an FCC rulemaking. If necessary, this issue will be revisited to ensure consistency with the FCC requirements.

### **Service Order Charge for Line Sharing**

After carefully reviewing the record in this matter and the positions of the parties, the Board **FINDS** that Verizon NJ's service order charge applicable to line sharing, as modified by the Board as the result of modifications to VNJ's NRCM, is reasonable. As mentioned above, the Board determined that the Verizon NJ NRC studies must be modified to be consistent with the eight directives articulated by the Board in its November 20, 2001 Secretary's Letter. Based upon the directives contained in that letter, both Covad and the Advocate's concerns should be satisfied. In particular, directive number eight which requires Verizon NJ to "[e]liminate all manual times that are made obsolete by the flow through capabilities of OSS" addresses criticisms such as the manual re-typing of orders. In addition, we **REJECT** Covad's suggestion that the rates be reduced by 50%. Clearly, line sharing requires Verizon NJ to undertake order processing and order provisioning for which it is entitled to recover its costs, and Covad has not provided any convincing evidence to compel its proposed revision.

### **Collocation Charge for Line Sharing**

No party disputed Verizon NJ's proposed collocation charges for line sharing. We **FIND** that Verizon NJ's collocation charges for line sharing when a CLEC decides to add line sharing capabilities to an existing collocation agreement are reasonable. As indicated above, Verizon is entitled to recover the costs it incurs in provisioning service to CLECs.

### **Cross-Connect Charge for Line Sharing**

In support of its proposed cross connect charges for line sharing, Verizon NJ's developed a study based on distances sampled in New York. AT&T objected and argued that the cross connect rates should be consistent with the cross connect rates for collocation. Covad offered its own analysis based upon the placement and removal of jumpers and tie cables.

While we have carefully considered both AT&T and Covad's positions, Verizon NJ's analysis is specific to line sharing. There is nothing in the record that persuasively demonstrates that line

sharing and collocation cross connect rates should be the same. Clearly, collocation is not line sharing, and we would expect to see costs that vary even though cross connects are involved in the provision of service in both instances. Therefore, the Board **FINDS** that Verizon NJ's development of separate cross connect costs for line sharing is appropriate and **HEREBY ADOPTED** .

### **Loop Conditioning**

As a preliminary matter, the Board notes that in its October 6, 1999 Summary Order, it set forth its detailed determinations regarding how loop conditioning would be provided. Line conditioning refers to activities such as the removal of load coils, bridged taps, filters, range extenders and similar devices that are used to assist in the provision of voice and data services, but may interfere with xDSL service.

Based upon the record in this matter, the Board **FINDS** Verizon NJ's loop conditioning proposal is reasonable and is **HEREBY ADOPTED**. Verizon NJ's proposal correctly does not seek to charge CLECs for loop conditioning on lines less than 18,000 feet from the central office. We agree, however, with the Company that in the limited situations that may require bridged tap removal or any other conditioning that may be required over 18,000 feet, it is entitled to recover such costs. In addition, Verizon NJ is correct in imposing a limitation on the conditioning of lines over 18,000 feet, which will also be used to provide voice service. Clearly, the record reflects that the removal of such devices from a conditioned line affects the quality of the voice component. VNJ appropriately seeks to charge carriers for additional loop electronics for ISDN conditioning.

We **REJECT** the parties' assertions that multiple loops should be assumed to be conditioned or that devices such as bridged taps are not part of a forward-looking network design and therefore Verizon NJ should not be permitted to charge for their removal. Based upon the record, we have no factual basis to conclude that line conditioning will occur in increments greater than one. Clearly, the Company incurs costs to remove devices and should be compensated for the work. Moreover, the removal of such devices is necessitated by a CLEC request, and therefore, is appropriately a non-recurring cost. Furthermore, while it might reduce the average cost of removal over the long-term if multiple lines were conditioned at a time, the fact remains that not all the lines within a cable require conditioning and to perform conditioning where it is not required may lead to service degradation. Lastly, we **REJECT** the parties' suggestion that they

should not have to pay for ISDN loop electronics because they are part of a forward-looking network design and should therefore already be included in the loop rate like other conditioning charges the additional ISDN loop electronics is the direct result of a CLEC request that would otherwise not be required.

### **Loop Qualification**

With regard to loop conditioning, in its October 6, 1999 Summary Order, the Board has already ruled regarding the permissible manner of providing loop qualification information and acknowledged that Verizon NJ should recover its costs for loop qualification. Based upon the record, there has been no compelling evidence to suggest that the basic parameters articulated in that Order should be revised or eliminated.

However, during the course of the proceeding, the parties argued that the FCC requires that CLECs be provided non-discriminatory access to the same detailed information that is available to VNJ. AT&T, the Advocate and Covad all come to the same conclusion. According to the Advocate, "Verizon NJ is obligated under FCC decisions to afford its competitors direct electronic access to its databases containing loop makeup information." (Ab at 113). We agree. Consistent with those requirements, we **FIND** that Verizon NJ must now make available to CLECs electronically the same data contained in the LFACS database that Verizon NJ uses for its own qualification purposes. We do not, however, believe that Verizon NJ should be required to make the actual LFACS database available, but, rather, the identical information that is available to Verizon NJ in an electronic format must be made available to CLECs in an electronic format. According to Verizon NJ, it is already in the process of making the LFACS database information available to CLECS and has filed a proposal with the FCC. As such we believe it is appropriate to require Verizon NJ to provide the same detailed information to CLECs operating in New Jersey. CLECs, however, must not be responsible for the cost of creating an entirely new database to facilitate the delivery of the data since the information is already available. Verizon NJ is **DIRECTED** to make the data available electronically to CLECs within ninety days of its receipt of the Summary Order of Approval dated December 17, 2001, as was provided therein, and at the rate set forth in attachment A to the Summary Order and this Decision and Order. Verizon NJ is **FURTHER DIRECTED** during the interim to assess CLECs only the charge associated with electronic access and not the charge associated with a manual process because the manual intervention is a result of Verizon NJ's failure to make the information electronically available to CLEC's that is already electronically available to itself.

### **Wideband Testing**

According to Verizon NJ, it has proposed wideband testing as a service to improve service to CLECs to ensure the integrity and quality of data service on loops. (VNJb at 189). According to Verizon NJ, this permits trouble isolation and allows the Company to test the characteristics of a copper loop remotely and to assure that it is in good working order, balanced, and free of metallic defects and impairments such as shorts, grounds and foreign voltages. Verizon NJ claims that wideband testing will actually save CLECs money in the long run on such things as false dispatches.

The CLECs generally assail Verizon's proposed offering as being unnecessary and specifically state that they can perform their own testing if necessary and therefore should not be required to pay Verizon to do it for them. If permitted, they continue, the charge should be optional to CLECs. We agree with the latter recommendation and **FIND** that wideband testing should be optional. The CLECs have demonstrated in the record that they have the ability to perform their own testing, and as such, wideband testing should be an optional service and charge. More importantly, Verizon NJ has an affirmative obligation to provide working loops to its wholesale customers. As a basic premise, Verizon NJ's cost studies develop recurring rates that are based on a fully functioning network. In fact, the rates already take into account that additional lines will be necessary for growth and repair through the application of fill factors. The obligation logically extends to the provision of all services. Therefore, the Board **HEREBY REJECTS** Verizon's proposed wideband testing charge as a mandatory charge and **DIRECTS** that the charges be made optional at the request of a CLEC for this service.

### **Cooperative Testing**

Like wideband testing, the Board **FINDS** cooperative testing should not be made a mandatory charge. As stated above, we believe that VNJ has an affirmative obligation to provide CLECs with working loops and that the established rates guarantee the availability of working loops. However, it is also our opinion that Verizon NJ should be permitted to impose a cooperative testing charge on CLECs if testing is requested by the CLEC and the trouble is found to be on the CLEC's end of the circuit. While it is our belief that cooperative testing could benefit CLECs, the lack of required testing only impacts CLECs if the trouble is determined to be on its end of the circuit.

### **xDSL Over DLC/PARTS**

This issue began with Verizon NJ voluntarily bringing forth a proposal to address CLEC concerns regarding the provisioning of DSL service where VNJ has fiber-based feeder. However, Verizon NJ's proposal never progressed beyond its initial conception. Based upon the record, including Verizon NJ's initial intentions to develop such a proposal and the CLEC's interest in such an offering, we believe that Verizon NJ should be encouraged to pursue its initial proposal to conclusion. However, we agree with VNJ that it is under no legal obligation to provide PARTS under 47 C.F.R. §51.319(c)(5). However, the Company is **DIRECTED** to review its planned deployment of PARTS and inform the Board and the parties of any plans it has to deploy such systems within sixty days of its receipt of the Summary Order of Approval, as was provided therein.

### **Line Cards/Access to Remote Terminals**

#### **Remote Terminal Collocation**

Verizon NJ has agreed to provide physical collocation at remote terminal in those instances where it is necessary consistent with its legal obligations under FCC rules. The parties generally argue that the individual case basis pricing and proposed terms and conditions make remote terminal collocation an unlikely alternative. We agree. Although Verizon NJ has argued that the ICB pricing is necessary to provision remote terminal collocation because it has little or no experience in doing so, we note that Verizon NJ has extensive experience with collocation in general and should be able to apply its experience to remote terminal collocation. Therefore Verizon NJ is **DIRECTED** to file, within sixty days of its receipt of the Summary Order of Approval, RT collocation rates, terms and conditions so that CLECs may better evaluate their options as they relate to RTs. The filing shall be provided to interested CLECs, Staff and the Advocate for their review, and is subject to Board review and approval.

#### **Line Card Collocation in Remote Terminals**

The CLECs also seek access to what is described as line card collocation while line card installation would reduce a CLEC's costs by eliminating the need to purchase and entire DSLAM and occupy collocation space, Verizon NJ does not have a duty to invest in this equipment for the express purpose of limiting CLEC costs. While the FCC is reviewing related matters, Verizon NJ is meeting the current FCC standards. Therefore, the Board **FINDS** that, at

present, Verizon NJ has no obligation to provision plug and play DSL line cards inside its equipment for CLECs because the Company has not deployed the DLC equipment equipped with line card DSLAM technology. However, Verizon NJ is **HEREBY DIRECTED** to notify the Board and the parties within five business days if it has plans to deploy such technology or if the FCC revises its requirements.

### **Splitter Related Charges**

#### **Splitter Installation**

Both the Advocate and Covad assail Verizon NJ's splitter installation charges do not properly reflect forward-looking costs. In addition, Covad requests that the Board include splitter installation charges as part of the monthly recurring rate in instances where Verizon NJ owns the splitter. In reviewing the parties' positions, we FIND that Verizon NJ has demonstrated that its proposed costs are reasonably developed using the application of EF&I factors. In arriving at our decision, we reject the Advocate's contention that engineering costs are at least partially recovered through collocation charges. We are unconvinced of the merits of the Advocate's argument because it was unable to identify specific costs being recovered in both recurring and non-recurring rates. The EF&I factor captures vendor and engineering (i.e., planning, design and implementation), installation, material related charges, preparing a method and procedure, plant testing, and plant acceptance. CLECs, however, are not mandated to have Verizon NJ perform the installation. In fact, CLECs have three options, i.e., install their own splitters or elect to have Verizon NJ or its authorized vendor perform the installation. Therefore, the splitter installation charge (payable to Verizon NJ) associated with the physical installation of the splitter may be avoided by the CLEC if it elects to have its own technicians perform the installation.

#### **Splitter Administration and Support**

Verizon NJ has developed what it described as two different administrative and support ("A&S") charges. The first one it called Option A applies where the CLEC's splitter is located in its collocation cage. The second, Option C, applies where the splitter resides in Verizon NJ's portion of the central office. According to the Company, under Option A, the CLEC purchases and installs the splitter in its collocation cage and takes care of all maintenance. Under Option C, the CLEC purchases the splitter and either the CLEC or Verizon NJ installs it in Verizon NJ's space. Under Option C, Verizon NJ maintains and supports the splitter. Option B includes the cost for maintenance, administration and wholesale marketing costs, and other support. Option A includes all the aforementioned costs less maintenance.

The CLECs and the Advocate generally argue that the CLECs should not have to pay for Option A because they own and maintain the splitter. We agree and **DIRECT** Verizon to eliminate this charge. There is no reasonable basis to permit Verizon NJ to assess such a charge on CLEC-owned equipment. With regard to Covad's argument that Option C inappropriately seeks to recover advertising expense, we also agree that this expense is inappropriate. However, we note that this issue should be moot because in our findings on expense factors we already directed the company to remove advertising expense from all expense factors.

### **Splitter Equipment Support**

The splitter equipment support charge applies to arrangements where the CLEC elects to have VNJ place the splitter in the CLEC's collocation area. It is a monthly charge to recover the in-place cost, including the relay rack on which a splitter is mounted. Verizon NJ argued that in developing the proposed rate it based the cost for the equipment bay and its associated installation on the portion of the equipment bay required for the entire shelf because the Company incurs the cost of the bay whether CLECs order one or more splitter circuits on the shelf. Covad sought to have the rates developed on an incremental basis effectively leaving Verizon NJ responsible for unused splitter circuits until the CLEC required them. Based upon the evidence in the record, we agree with VNJ that it properly seeks to recover the cost of the entire shelf. In arriving at our decision, we reject Covad's proposal that would only charge CLECs on an incremental basis for the individual circuits they require. In our view, Verizon NJ incurs a cost for the entire shelf when a CLEC makes a request, regardless of the number of circuits requested. As such, the proposed charge will only include those costs necessitated by the CLEC's request. To decide otherwise, would require the Company to make investments on behalf of CLECs without being duly compensated. Therefore, we **HEREBY ADOPT** VNJ's proposal.

### **Splitters on the Main Distribution Frame**

Several parties argued that as a matter of efficiency, Verizon NJ should be required to locate splitters on the main distribution frame. Verizon NJ argued that space on the MDF is limited and explained that the MDF is used primarily for voice grade service. While we do not disagree with claims that MDF mounted splitters may result in reduced costs to CLECs, we are concerned with the effects of doing so. Although DSL service has been gaining in popularity, nothing concrete in the record demonstrates that the best long-term solution for mounting splitters

should be on the MDF. Until such time as the requirements change, we **FIND** Verizon NJ's proposal is reasonable and is **HEREBY ADOPTED**.

### **Splitters Made Available By Verizon NJ A Line Or Shelf At A Time**

Similar to the issues above, CLECs seek access to splitters on a line or a shelf at a time basis in the name of efficiency. According to Verizon NJ, such an arrangement is unworkable because it would result in Verizon NJ purchasing splitters on a CLEC's behalf, permitted only to recover the portion of the cost related to what is put into service and may be incompatible with certain DSLAM technologies, leaving Verizon NJ with obsolete or underutilized splitters. We agree with Verizon NJ that to permit line or shelf at a time splitter availability is both impractical and inefficient and will not order it to provide access to splitters incrementally on a line or shelf basis.

### **Line and Station Transfer**

A line and station transfer charge is a one-time charge for migrating a Verizon NJ voice customer from a non-xDSL-capable line to an xDSL-capable line so CLECs can meet customers' xDSL needs via a line sharing arrangement. No party, other than Verizon NJ, addressed this issue. We agree with Verizon NJ that a line and station transfer is appropriate to ensure that CLECs have the same non-discriminatory access to provision xDSL service to its customers. However, we **DIRECT** Verizon NJ to restate the terms and conditions of the offering to extend to CLECs that want to provide line splitting as well as line sharing.

### **Policy Where Loops Unavailable**

Other than Verizon NJ, no other party addressed this matter. Having reviewed the record in this matter, we **HEREBY ADOPT** Verizon NJ's proposal.

### **Engineering Work Orders**

The CLECs and the Advocate generally assail Verizon NJ's methodology in developing its proposed costs for engineering work orders. Covad argued that Verizon NJ's study did not reflect forward-looking practices and incorrectly assumed multiple engineering work orders for conditioning multiple loops when an efficient company should only require one. Covad argues that the proper method would be to spread the costs across the average number of loops to be conditioned per order.

We disagree with Covad's proposal because it attempts to reduce the costs by assuming that multiple engineering work orders will be processed simultaneously. Verizon NJ is entitled to recover the full costs associated with engineering work order. Similar to our rationale elsewhere in this Order, the work order is caused to be initiated by a CLEC request and therefore, any costs associated with that work order must be paid by the CLEC requesting the work. The Board therefore **FINDS** that recovering the costs of such work efforts is entirely justifiable and reasonable in the provisioning of UNEs and **ADOPTS** VNJ's proposal.

## **B. House And Riser Cable**

### **Statement of the Issue**

House and riser cable provide a communications path within a multi-story building that provides access to the network side of a customer's NID from a point of interconnection within the building. Verizon NJ described the house and riser cable as a:

2-wire or 4-wire metallic distribution facility in Verizon NJ's network between the minimum point of entry for a building where a premises of a customer is located (such a point, a Minimum Point of Entry ("MPOE")) and the rate demarcation point for such a facility (or network interface device), if the NID is located at such rate demarcation point.

[VNJb at 210].

The house and riser cable provides a CLEC with access to facilities between the network side of the network interface of the CLEC's end user (usually on the floor where the end user is located), and a point of interconnection (usually in the basement) on the same premises where the network side of Verizon NJ's house and riser facilities terminate. The issues before the Board are twofold. The Board must determine the rates that Verizon NJ may charge for this service, and the Board must determine whether the terms and conditions imposed on the house and riser offering proposed by Verizon NJ are reasonable.

### **Positions of the Parties**

#### **1. Rates**

##### **Verizon NJ Position**

Verizon NJ presented recurring and non-recurring cost studies in its initial testimony that, it argued, support imposition of its proposed rates. (*Ibid.*). According to Verizon NJ, the costs identified in the studies "include the investment cost of the riser cable itself, and the material and

labor costs associated with the termination of the riser facilities at the end user's premises and at the basement point of interconnection." (*Ibid.*). Additionally, Verizon NJ proposed to charge the CLECs on an ICB basis because the Company reasoned that "[a]t this early stage of experience with analysis of what it will cost for such service, an ICB is the only reasonable way to develop the rate." (VNJrb at 199). In support of its proposed rates, Verizon NJ contended that a recent recommended decision submitted to the New York Public Service Commission determined that rates, which were set by an assumption similar to that of Verizon NJ's regarding its backboard investment and charged by Verizon NY for house and riser, were appropriate.<sup>56</sup> (*Ibid.*).

Verizon NJ also refuted the Advocate's arguments, which were based on testimony that was submitted and subsequently withdrawn by AT&T, and, thus, not in evidence in this proceeding. (*Id.* at 198). Although the testimony on which the Advocate relied had been withdrawn, Verizon NJ explained the reasoning behind imposition of a fee for a terminal block. (*Id.* 198-199). Specifically, Verizon NJ argued that a "terminal block is required for the connection of Verizon NJ's house and riser facilities to the CLEC's network . . . to permit testing and isolation of troubles for maintenance purposes." (*Ibid.*). A CLEC, Verizon NJ claimed, may install its own terminal block, or request Verizon NJ to install a terminal block on its behalf for a fee. (*Id.* at 199).

### **Advocate Position**

The Advocate argued that Verizon NJ should assess rates based on the terminal charges only for the number of terminal connections specifically requested by the CLEC, instead of rates based on a terminal block requirement. (Ab at 139). It argued that single pair interconnection is technically feasible and therefore must be made available to CLECs. (*Ibid.*). The Advocate further argued that the Board should "disallow Verizon NJ's proposed Time and Materials charges for dispatches to perform cross-connections between the Verizon NJ network and the CLEC terminal block." (*Id.* at 140). The Advocate argued that these ICB charges "provide CLECs with no certainty as to the amount Verizon NJ would actually assess for providing access to house and riser cable" and make it "all but impossible for CLECs to develop business

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<sup>56</sup> Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements, Case 98-C-1357, Recommended Decision on Module 3 Issues (NY PSC May 16, 2001, p. 124).

plans to include house and riser cable.” (*Ibid.*). The Advocate recommended the following rates for CLEC access to house and riser cable:

<b>HOUSE AND RISER</b>	<b>RATE</b>
Cable Investment per Floor (recurring).	\$0.01
Building Access per pair (recurring).	\$0.55
Pair Terminal Charge, per pair (nonrecurring).	\$3.15
Time and Materials (nonrecurring).	N/A

The recurring rates recommended by the Advocate are the rates proposed by VNJ, while the nonrecurring Terminal charge is on a per pair basis at the rate initially proposed by AT&T, rather than the 50 pair Terminal charge of \$157.38 proposed by VNJ. The Advocate also recommended that the Time and material charge be disallowed, as opposed to VNJ’s ICB charge (Ab at 139-140). The Advocate argued that if the Board orders single pair interconnection, time and materials charges for technician dispatches would be unnecessary. (*Id.* at 141).

## **2. Terms and Conditions**

### **Verizon NJ Position**

Verizon NJ argued that it “offers to make house and riser cable available only in locations where Verizon NJ owns, operates, maintains and controls such in-place facilities or where Verizon NJ has operational control of such in-place facilities and it will not reserve a house and riser cable for a CLEC.” (VNJb at 211). With regard to its proposal, Verizon NJ presented the following terms and conditions:

1. House and riser is provided on a first-come first-served basis;
2. Verizon NJ is not obligated to move Verizon NJ equipment, secure a right of way for the CLEC, secure space for the CLEC in any building, secure access to a portion of a building for a CLEC, or reserve space in a building for a CLEC;
3. A terminal block is required for the connection, but the CLEC may install its own terminal block, or upon request, Verizon NJ will place a terminal block on behalf of a CLEC for a fee;
4. A CLEC must locate its compatible terminal block within cross-connect distance of the MPOE for house and riser cable;

5. The CLEC's equipment or facilities may not be installed so that the CLEC's terminal block or equipment is located in a space where Verizon NJ intends, based upon a pending engineering order, to locate its facilities or equipment;
6. Once the terminal block is established, requests for service will be initiated through a Local Service Request ("LSR");
7. Only Verizon NJ technicians should be allowed to perform cross-connection work on Verizon NJ's house and riser, unless otherwise mutually agreed by the CLEC and Verizon NJ.

[Ibid.].

Because no party had submitted testimony challenging Verizon NJ's proposal, Verizon NJ asserted that the "Board should adopt it as filed." (Id. at 212).

In response to the arguments advanced by the Advocate, Verizon NJ argued that those arguments should be rejected as they were based on testimony that had been withdrawn by its proponent, AT&T. (VNJrb at 199). Verizon NJ refuted the Advocate's position that decisions of the Washington Utilities and Transportation Commission and Georgia Public Service Commission have required ILECs to permit single pair interconnection.<sup>57</sup> (Ibid.). According to Verizon NJ, the Washington decision resolved the issue of "what process the parties must follow to address their underlying dispute regarding access to house and riser cable," and did not determine that "it was unreasonable for an ILEC to require a terminal block for the connection of its house and riser facilities to the network." (Id. 199-200). With regard to the Georgia decision, Verizon NJ argued that it required an ILEC to construct a single point of interconnection and did not oppose Verizon NJ's terminal block requirement. (Id. at 200). Verizon NJ also refuted the Advocate's reliance on 47 C.F.R. § 51.319(a)(2)(C) because "that provision only applies to the designation of points at which it is technically feasible to unbundle subloops," and Verizon NJ claimed that the Advocate "failed to show that one state has determined that it is technically feasible to unbundle the house and riser cable without a terminal." (Ibid.).

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<sup>57</sup>See AT&T Communications of the Pacific Northwest, Inc. v. Quest Corp., Docket No. UT-003120, Second Supplemental Order Granting Motion to Amend Answer, Denying Emergency Relief and Denying Motion for Summary Determination (Wash. U.T.C. April 5, 2001); In re Interconnection Agreement of MediaOne Telecommunications of Georgia LLC and Bell South Telecommunications, Docket No. 10418-U (12/28/99).

## **Advocate Position**

The Advocate criticized the terms and conditions offered in Verizon NJ's house and riser proposal. (Ab at 140). Specifically, the Advocate claimed that "Verizon NJ's proposal is anticompetitive because it would require CLECs to purchase and install their own, separate 50-pair terminal block in order to access house and riser cable . . . and to connect to this in 50-pair block increments." (Id. at 141). In lieu of Verizon NJ's terminal block requirement, the Advocate proposed that Verizon NJ be required to permit single pair interconnection. (Id. at 141-142). In support of its position, the Advocate claimed that the Washington and Georgia decisions, which it argued respectively found that single point interconnection is technically feasible and that a single point of interconnection must be constructed for use by multiple CLECs, required Verizon NJ to provide single pair interconnection. (Ibid.). The Advocate argued that because other states have found single point of interconnection to be technically feasible, Verizon NJ must show why it is not technically feasible, or provide single point of interconnection. (Ibid.).

## **Board Discussion – House and Riser Cable**

House and riser cable provide a communications path between the minimum point of entry (MPOE) in a multi-tenant building and the rate demarcation point, usually evidenced by a network interface device (NID) at or near the end-user's location. Verizon NJ seeks to charge CLECs monthly recurring rates for access to the house and riser cable that consists of investment and material and labor costs associated with the termination of the riser facilities at the end user's premises and at the basement point of interconnection. In addition, the Company's proposal would permit CLECs to install or have VNJ install a terminal block for a fee. Once a terminal block is installed, Verizon NJ would require CLECs to order cross connects in blocks of 50, regardless of the number of circuits required.

After review of the record, we **FIND** that Verizon's proposal is generally reasonable in that it only seeks to charge CLECs for costs that are incurred in the provision of house & riser cable. However, there are areas that need to be modified.

While the parties were critical of Verizon NJ's proposed time and materials charge for the installation of cross connects, we agree with the Company that such installations are not uniform in the sense that the location and access may vary significantly with each installation. While such pricing may interject some uncertainty into CLECs' costs, CLECs should have the opportunity to perform their own cross connect work, thus avoiding the charge. In its initial brief,

Verizon NJ appeared to agree, indicating that “only Verizon NJ technicians should be allowed to perform cross-connect work on Verizon NJ’s house and riser “*unless otherwise mutually agreed by the CLEC and Verizon NJ*”. (VNJb at 211 emphasis added). Because CLECs have this ability, we reject the Advocate’s contention that time and materials charges should be eliminated because they will make it impossible for CLECs to develop business plans. It is our position that many, if not all, of the CLECs possess the necessary expertise to perform such installations and if it is to their advantage they will seek to do so. In addition, we **DIRECT** Verizon NJ to permit CLECs to install and share terminal blocks as necessary to access house and riser cable. In requiring CLECs to complete 50 cross connects at a time, the Company needlessly inflates the CLECs cost of doing business. It should be left to the CLEC to determine the economical and efficient level of cross connects it intends to order based upon its own business plan.

### **C. Dark Fiber**

#### **Statement of the Issue**

In this section, the Board addresses the rates, terms, and conditions associated with VNJ’s Dark Fiber offering. Specifically, we must determine whether the rates proposed by Verizon NJ for dark fiber are reasonable and well supported, or require modification. In addition, we must determine whether Verizon NJ’s definition of dark fiber is consistent with the FCC’s definition of dark fiber or whether it needs to be modified.

#### **Positions of the Parties**

##### **1. Rates**

#### **Verizon NJ Position**

According to Verizon NJ, its dark fiber cost study “appropriately includes costs for fiber cable, the pole and conduit structures that support the fiber cable, as well as the associated capital and operating expenses.” (VNJb at 212). The Company asks the Board to approve its proposed rates because it contends that they are reasonable and well supported. (*Ibid.*).

Verizon NJ also refuted the claim made by AT&T, Conversent and the Advocate that Verizon NJ’s rates are unreasonable because they are higher than rates imposed in neighboring states. (VNJrb at 200). Verizon NJ argued that “[i]n comparing Verizon NJ’s dark fiber rates to dark fiber rates in New York, Massachusetts and Pennsylvania, these parties conveniently ignore the inherent differences among the states.” (*Id.* at 200-201). Verizon NJ differentiated the rates in this proceeding from those in other states by noting that “the rates in other states are the

product of different inputs across states.” (Id. at 201). Verizon NJ further pointed out that the rates of other states “may reflect individual circumstances of the cases in which the costs were litigated, such as the timing of consideration of costs, whether the rate reflected the product of a compromise or procedural resolution specific to that state, or other similar procedural considerations.” (Ibid.).

### **Advocate Position**

The Advocate proposed that the Board adopt rates for dark fiber that use the same long-run forward-looking cost basis used to price any UNE and argued that Verizon NJ’s rates violate this principle because they include both investment costs and embedded costs. (Ab at 144).

According to the Advocate, the Board should not include the investment costs in determining the rate for dark fiber because of Verizon NJ’s reservation of the rights to recall. (Ibid.). The

Advocate further claimed that Verizon NJ’s rates are unreasonable and excessive as compared with the dark fiber rates of Verizon in Pennsylvania. (Id. at 145). As claimed by the Advocate, the only costs incurred by Verizon NJ for dark fiber are the costs of maintaining the dark fiber.

(Id. at 144). Thus, the Advocate stressed that in recognition of the costs incurred by Verizon NJ, the rates proposed by Verizon NJ are excessive because they “require competitors to pay Verizon NJ for adding additional capacity when Verizon NJ has no intention of adding that capacity.” (Ibid.). The Advocate argued that in order to develop a forward-looking price for Verizon NJ’s dark fiber interoffice facility (“IOF”) offering, the Board’s adopted rate for dark fiber should plainly include only the forward looking network expenses to Verizon NJ’s dark fiber IOF. (Id. at 145). The Advocate also maintained that Verizon NJ “should be required to propose a dark fiber subloop in New Jersey with rates that mirror New York.” (Id. at 147).

### **AT&T Position**

AT&T claimed that Verizon NJ’s proposed dark fiber rates “are not TELRIC compliant and are excessive, particularly when compared to dark fiber rates in neighboring states.” (AT&Trb at 114). Specifically, AT&T argued that Verizon NJ’s rates for dark fiber are unreasonable

because they are greater than the dark fiber rates in New York and Massachusetts. (AT&Tb at 234-235). AT&T proposed that the Board “should establish dark fiber rates that, at a minimum, are no greater than those of surrounding states in the Verizon footprint.” (*Id.* at 235).

### **Conversent Position**

Conversent claimed that Verizon NJ’s rates for dark fiber are unreasonable as compared with the dark fiber rates of New York and Massachusetts. (CONb at 3). Conversent argued that Verizon NJ has failed to justify the higher rates proposed in New Jersey as compared to the lower rates imposed in neighboring states, and its rates therefore, should be rejected. (*Id.* at 3).

### **Covad Position**

Covad argued that the Board should allow Verizon NJ to recover only the operating and maintenance costs of dark fiber that CLECs use because Verizon NJ is able to hold back dark fiber and, thereby, avoid having to build new fiber to meet its internal requirements and insulate itself from incurring capacity-related costs for dark fiber. (COVb at 36). Covad also argued that Verizon NJ should not be allowed to apply a fill factor to dark fiber because “[t]he cost of that spare fiber is already recovered by application of fill factors to rates for interoffice transport and loops.” (*Id.* at 37). In addition, Covad maintains that dark fiber, “unlike all other network elements, is the product of fill factors.” (*Ibid.*)

## **2. Definition**

### **Verizon NJ Position**

“Dark fiber,” as defined by Verizon NJ, is “a spare, unlit continuous fiber optic strand, without enhancing electronics/photonics, within an existing, in-place fiber optic cable sheath.” (VNJb at 212). Verizon NJ argued that its definition is reasonable and is consistent with the FCC’s definition of dark fiber as “deployed, unlit fiber optic cable that connects two points within the incumbent LEC’s network. . . . ‘[u]nlit’ fiber does not have electronics at either end of the dark fiber segment to energize it to transmit a telecommunications service.” (VNJrb at 201, citing UNE Remand Order at ¶325). VNJ further noted that the FCC has described dark fiber as “fiber that has not been activated through connection to the electronics that ‘light’ it.” (VNJrb at 202, citing UNE Remand Order at ¶174). Thus, VNJ argued that both definitions contemplate dark fiber as a spare, unlit fiber optic strand. (*Ibid.*). Verizon NJ claimed that the FCC also alludes to the fact that “dark fiber is existing ‘because it is in place and easily called into service’.” (VNJb

at 212; citing UNE Remand Order at ¶174). Verizon NJ rebutted AT&T's and Cablevision's criticism of Verizon NJ's inclusion of the phrase "existing, in-place fiber optic cable" in the definition of "dark fiber". (VNJrb at 202). As Verizon NJ explained, the "FCC does not require or even suggest that an incumbent LEC should provide dark fiber that it has yet to deploy." (Ibid.).

In keeping with its definition, of dark fiber as "continuous" VNJ will not permit CLECs to interconnect fiber optic facilities to VNJ's dark fiber at splice points. (VNJb at 213). Verizon NJ explained that dark fiber is not a "spliced-together series of other dark fibers," but rather a "single span connecting two points," and requested that the Board reject any attempt to expand this definition. (VNJb at 213). Verizon NJ's position that it will not permit CLECs to interconnect fiber optic facilities to Verizon NJ's dark fiber at splice points is consistent, it argued, with the FCC's description of dark fiber as "unlit fiber optic cable that connects two points within the incumbent LEC's network." (Id. at 212-213, UNE Remand Order at ¶325).

Requiring it to splice together previously separate strands of dark fiber, VNJ argued, would be "akin to requiring it to design and construct new transport facilities to meet a requesting carrier's requirements where Verizon NJ has not deployed such facilities for its own use," and is not required by the FCC to do so. (Id. at 214-215). Verizon NJ rebutted the CLECs' assertion that they should be given access at any point in the Verizon NJ network where there is a splice point by describing the "technical infeasibility and impracticality of this request" because of the substantial risks involved with splicing fiber, including the introduction of degradation." (VNJrb at 203). Regarding Cablevision's, Conversent's and the Advocate's challenge to its no splicing policy, Verizon NJ asserted that the "CLECs fail to recognize that pieces of dark fiber requiring splicing are not within the definition of dark fiber at all because the definition of dark fiber requires that it be continuous. (Id. at 204). In addition, Verizon NJ contended that the demonstrated potential for degradation to the network that Verizon NJ uses to fulfill its carrier of last resort responsibilities would be sufficient, independent basis for this Board to prohibit splicing, as a reasonable restriction on the availability of dark fiber, assuming that the standard mentioned in the UNE Remand Order, ¶199, is the only basis for limiting conditions." (Ibid.).

Although VNJ argued that there is no FCC requirement nor other reasonable basis for requiring ILECs to construct or place new dark fiber to meet CLECs' needs, Verizon NJ claimed, however, that it will "lease, under a contractual agreement, dark fiber to CLECs with the

understanding that the dark fiber subject to the lease agreement originates at a Verizon NJ central office where a CLEC has collocation, and it terminates at the hard termination point.” (VNJb. at 215). The hard termination point, Verizon NJ explained, is “located in the main telecommunications room at an end user premises within that serving wire center.” (Id. at 216). Verizon NJ contended that routing dark fiber through intermediate central offices where a CLEC is not collocated has, in Massachusetts where it was Ordered, resulted in quality complaints from customers and, thus, is not feasible. (Ibid.). Verizon NJ also argued that its policy of not routing dark fiber, which was criticized by AT&T, Conversent and Sprint, is correct because “dark fiber not directly routed is simply not ‘continuous,’ and therefore not within the operative definition.” (VNJrb at 205). VNJ further argued that “[t]his distinction, which bears directly on Verizon NJ’s quality of service to CLECs, also informs quality of service concerns regarding other end users on Verizon NJ’s network whose service could be jeopardized by permitting access in places on the system other than hard termination points. (Ibid.). VNJ asserted that the New York State of Public Service Commission had appropriately rejected the same request to lay new fiber routes as beyond the FCC’s regulations. (Id. at 206).<sup>58</sup>

As to Verizon NJ’s inclusion of the phrase “without enhancing electronics/ photonics” in its definition of “dark fiber,” VNJ argued that while the FCC’s definition does not include the term “photonics,” the inclusion of this term does not improperly broaden the FCC’s definition because photonics are “functionally similar to electronics.” (VNJb at 212-213). Verizon NJ refuted AT&T’s criticism of the inclusion of the term “photonics” as baseless because “[p]hotonics, like electronics, is a technology that uses light particles to carry information over fiber.” (VNJrb at 202).

### **Advocate Position**

The Advocate argued that Verizon NJ’s definition of “dark fiber” has provisions that, when measured against the FCC’s definition of the UNE, amounted to impermissible restrictions upon the availability of dark fiber. (Ab at 147). To foster competition, the Advocate proposed that the Board adopt a broad and unrestrictive definition of dark fiber, similar to the FCC’s definition of dark fiber. (Ibid.). Specifically, the definition of dark fiber, as contemplated by the Advocate, “should provide for a CLEC’s ability to run interoffice facility through central office space where it is not collocated and to splice its own interoffice facility.” (Ibid.). The Advocate maintained that

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<sup>58</sup> Proceeding on Motion of the Commission to Examine Issues Concerning the Provision of Digital Subscriber Line Services, Order Granting Clarification, Granting Reconsideration in Part and Denying Reconsideration in Part, and Adopting schedule, Case 00-C-0127 (NYPSC, January 25, 2001) at 16.

Verizon NJ's restriction on this ability is inconsistent with VNJ's treatment of requests for lit fiber. (Id. at 147-148). VNJ's use of the term "continuous," which is not an FCC requirement, the Advocate argued, prohibits CLECs from splicing dark fiber, thereby limiting the dark fiber available to competitors. (Id. at 147-149). The Advocate also criticized Verizon NJ's definition of "dark fiber" for placing limitations on the provisioning of dark fiber without showing the Board that Verizon NJ's obligations as a carrier of last resort would be jeopardized. (Id. at 147-148). The Advocate also argued that Verizon NJ's dark fiber offering should not only include an interoffice dark fiber and a dark fiber loop, but it should also include a dark fiber sub-loop, as is available in New York. The Advocate agreed with Covad's witnesses Murray and Riolo, that fiber rarely extends to an end user's premises, and because VNJ limited its offering to the entire loop, "the dark fiber product as defined by Verizon NJ would likely never be an option." (Id. at 146, 149-150, citing Murray-Riolo Rebuttal at 186).

#### **AT&T Position**

AT&T argued that Verizon NJ's definition of "dark fiber" is inconsistent with the FCC's definition of "dark fiber," imposes discriminatory conditions on the provision of dark fiber, and each such condition should be rejected by the Board. (AT&Tb at 234). With regard to the term "spare" in Verizon NJ's definition of "dark fiber," AT&T claimed that the inclusion of this term "is a likely source of abuse if VNJ is allowed to make its own subjective determination of which constitutes spare fiber." (Id. at 236). AT&T asserted that Verizon NJ's inclusion of the term "continuous" is also discriminatory because it forecloses CLECs the possibility of splicing the fiber together, which VNJ is able to do for its own uses. (Ibid.; AT&Tb at 116). As to accessing dark fiber at splice points, AT&T, citing to testimony of Covad witness Riolo, contended that it is technically feasible to do so and that CLECs should be permitted access to dark fiber at splice joints. (AT&Tb at 116-118). It further argued that limiting access to dark fiber at hard termination points is inconsistent with the Act's requirement of non-discriminatory access at all technically feasible points of interconnection. (Id. at 116-117). AT&T argued that the Board should disallow the inclusion of the term "photronics" in Verizon NJ's definition because the FCC definition does not include the term. (AT&Tb at 237). AT&T also asserted that the phrase "existing, in-place" should be stricken from Verizon NJ's definition of "dark fiber" because "those words can be construed to fix the dark fiber in both time and space," and it should be clear that dark fiber will include unlit fiber that is deployed in the future, as well as that already deployed. (Ibid.). AT&T further claimed that dark fiber should not be limited to fiber optic cable sheath that Verizon NJ owns because the FCC did not include sheath ownership in its definition of dark

fiber and an ownership requirement could lead to manipulating title to avoid dark fiber obligations to CLECs. (*Ibid.*).

### **Cablevision Position**

Cablevision argued that Verizon NJ's "definition of dark fiber substantially varies from the FCC's definition of dark fiber in such a way as to limit the availability of this UNE to CLECs." (CLb at 10). According to Cablevision, the Board may permit an ILEC to place reasonable limitations on the availability of dark fiber only when the ILEC demonstrates that "unlimited access to unbundled dark fiber threatens [the ILEC's] ability to provide service as a carrier of last resort. (*Id.* at 11, citing the UNE Remand Orders at ¶352). Cablevision criticized the inclusion of the term "continuous" in Verizon NJ's definition of "dark fiber" and, noting that VNJ self-provisions fiber by continuity splicing and offers splicing to CLECs in other jurisdictions, Cablevision proposed that Verizon NJ "should be required to splice dark fiber strands within the same sheath at existing splicing points." (*Id.* at 11-13). Cablevision argued that requiring Verizon NJ to splice dark fiber would not entail Verizon NJ augmenting its facilities or building out its network. (*Id.* at 12). Cablevision also claimed that Verizon NJ's "interpretation of 'existing, in-place' cable could preclude the availability of dark fiber to CLECs that Verizon may deploy in the future." (*Id.* at 14). To avoid this restriction on the availability of dark fiber, Cablevision argued that the "Board should clarify that dark fiber is in a state of flux and . . . include[s] unlit fiber optic cable that is deployed in the future as well as that which is already deployed." (*Id.* at 14-15). It also contended that "photonics" should be removed from the dark fiber offering because it is a separate concept from the "electronics" limitation referenced by the FCC. (*Id.* at 13, n.42).

### **Conversent Position**

Conversent argued that Verizon NJ's proposed conditions, which, in effect, are imposed by way of Verizon NJ's definition of dark fiber, are not limited to those necessary for Verizon NJ's fulfillment of its duties as a carrier of last resort and contravene the FCC's rules ensuring CLEC access to UNEs. (CONb at 2). Conversent argued that Verizon NJ's inclusion of the term "continuous" in its "dark fiber" definition inappropriately restricted the FCC's definition of "dark fiber." (*Id.* at 4). Conversent's criticism of Verizon NJ's inclusion of the term "continuous" in its "dark fiber" definition was based on the following reasons: (1) "there is nothing in the FCC UNE Remand Order or Rules that suggests that dark fiber is defined as a 'continuous' fiber optic strand or that Verizon should not be required to splice fiber segments together in order to

provide continuity between two locations as requested by a CLEC;” (2) “Verizon’s requirement that fiber be continuous and unspliced is unrelated to its obligation to provide service as the carrier of last resort;” (3) “Verizon’s refusal to splice fiber to provision a fiber route encourages waste of existing stranded ILEC facilities when fiber facilities are limited;” and (4) “it is technically feasible to [splice fiber] and Verizon splices fiber strands for itself.” (Id. at 4-5). Conversent contended that the Board should require Verizon NJ to splice at existing splice points “upon a CLEC’s request on a time and materials basis.” (Id. at 6, 12).

Additionally, Conversent argued that the Board should require Verizon NJ to provide intermediate cross connections to CLECs. (Id. at 11). As Conversent claimed, “it is technically feasible for Verizon [NJ] to provide intermediate cross connections to CLECs, which does not require collocation, so they may establish dark fiber routes that pass through intermediate central offices.” (Id. at 10). As to VNJ’s claims regarding possible degradation of dark fiber capabilities, Conversent maintained that such claim is “illogical and invalid because Verizon NJ, in the first place, does not guarantee the transmission capabilities of dark fiber” provisioned to CLECs. (Id. at 10). Conversent also argued that VNJ’s policy is inconsistent with its treatment of requests for lit fiber, including OC-3 fiber, that runs through an intermediate office, and hence discriminates between a CLEC which seeks to enter the market by using its own electronics attached to ILEC-provided dark fiber and a CLEC which seeks to enter the market by leasing lit fiber. (Id. at 11). Thus, Conversent argued that Verizon NJ’s cross connection limitation is unrelated to its carrier of last resort responsibilities, acts as a barrier to entry, and must be changed so as to require VNJ to provide such intermediate cross connections to CLECs. (Id. at 10-11).

### **Sprint Position**

Sprint argued that Verizon NJ’s definition of “dark fiber” is too restrictive because it “limits the network element to only those strands that are continuous, excludes splicing, and cannot include any intermediate offices.” (Sub at 8). Verizon NJ’s definition, by insisting upon the term “continuous” and not allowing splicing at any technically feasible point, Sprint claimed, allows Verizon NJ to avoid its obligation to provide nondiscriminatory access to dark fiber. (Id. at 9). Sprint argued that the Board should follow the Pennsylvania Commission and require Verizon NJ “to provide dark fiber in any technically feasible manner, including splicing and use of intermediate offices for routing purposes.” (Surb at 2).

### **Covad Position**

Covad argued that the Board should require Verizon NJ to splice dark fiber for CLECs under the same terms and conditions by which Verizon NJ does so for itself. (COVrb at 12-13).

According to Covad, the FCC has not dealt with an ILEC's obligation to splice dark fiber segments together. (*Ibid.*). Covad claimed that Verizon NJ misplaced reliance on the UNE Remand Order at ¶ 324, which rejects a CLEC's request to have ILECs construct SONET rings. (*Ibid.*). Covad explained that the difference between creating a SONET ring and splicing dark fiber is great because building a SONET ring requires acquiring new electronics, while splicing fuses together existing pieces of dark fiber. (*Ibid.*). Covad then argued that, "whenever denying a request to splice dark fiber, . . . a senior executive [of Verizon NJ should be required to] file with the Board a sworn statement that Verizon has not spliced fiber optic cable for itself in the past and has no plans to do so in the future." (*Ibid.*).

### **3. Maintenance and Spare**

#### **Verizon NJ Position**

Verizon NJ argued that "[i]n order to maintain the integrity and reliability of the Verizon NJ network and meet known, near-term customer service requirements, a reasonable quantity of dark fiber will not be available for assignment to be used as UNE dark fiber." (VNJb at 216-217). As Verizon NJ explained, "maintenance fibers used for emergency repairs, network rearrangements and known, near-term customer service requirements, and fibers identified for network survivability projects" will not be available for assignment to CLECs. (*Id.* at 217).

Although the reserved fibers will not be assigned to CLECs, Verizon NJ claimed that these "maintenance spares will be available to CLECs as well as to Verizon NJ, for emergency restoration of a lit fiber that is broken or physically damaged." (VNJrb at 207). Because CLECs receive the benefit of the reserved dark fiber as would Verizon NJ, Verizon NJ rebutted AT&T's and the Advocate's contention that Verizon NJ's reservation of dark fiber discriminates against CLECs. (*Ibid.*).

#### **Advocate Position**

The Advocate claimed that Verizon NJ's "dark fiber" definition inappropriately restricts dark fiber to spare fiber and excludes from its categorization of "spare" fiber, any fiber that VNJ is reserving for its own use. (Ab at 150). The Advocate asserted that this is a restriction that is not supported by the FCC's definition of "dark fiber" and improperly discriminates against CLECs and ultimately consumers. (Ab at 150). In keeping with the FCC's definition of "dark

fiber”, the Advocate proposed that the Board should prohibit Verizon NJ from reserving dark fiber, which reservation policy, the Advocate claimed, bestows on Verizon NJ an unfair advantage in the marketplace. (*Id.* at 151). In the event that the Board determines that Verizon NJ should be allowed to reserve dark fiber for maintenance purposes, the Advocate argued that the Board should limit the amount of dark fiber that Verizon NJ is able to reserve for its own purposes in order to ensure that Verizon NJ will not discriminate against carriers to the disadvantage of competition in New Jersey. (*Ibid.*).

### **AT&T Position**

AT&T argued that the Board should quantify the amount of dark fiber Verizon NJ would be allowed to reserve. (AT&Tb at 239-240). AT&T explained that without such a check, Verizon NJ could manipulate the reserved fibers “to remove them from the pool of spare fibers and obstruct a CLEC’s ability to gain access to dark fiber.” (*Ibid.*). According to AT&T, Verizon NJ’s policy of reserving fiber for itself, but not reserving fiber for CLECs, is “inconsistent with the Act’s non-discriminatory access requirements.” (AT&Tb at 118). According to AT&T,

“[n]on-discriminatory access as required by the Act, the UNE Remand Order (¶¶ 167, 174), and FCC Regulation (47 C.F.R. § 51.319(a)(1) means that VNJ cannot treat itself, or its affiliates, more favorably than CLECs. Therefore, VNJ cannot refuse to reserve for CLECs the features, functions and capabilities of unused transmission media, such as dark fiber, that it reserves for itself.”

[AT&Tb at 238.]

Additionally, AT&T claimed that Verizon NJ made no showing that without its reservation policy, its obligations as the carrier of last resort would be jeopardized. (*Ibid.*).

### **Cablevision Position**

Cablevision claimed that Verizon NJ’s characterization of the dark fiber as “spare” was restrictive. (CLb at 13). Restrictions on access to dark fiber, Cablevision asserted, are justified only if access to the dark fiber jeopardizes the ILEC’s obligations as the carrier of last resort. (*Ibid.*, citing UNE Remand Order, at ¶352). Because Verizon NJ makes no such claim, Cablevision argued, Verizon NJ “must be required to define dark fiber more narrowly to ensure

that all dark fiber, other than that necessary to enable Verizon to serve as a carrier of last resort, be available as a UNE.”<sup>59</sup> (Id. at 14).

### **Conversent Position**

Conversent argued that the Board should prohibit Verizon NJ from “warehousing dark fiber for its own future growth and insulating such fibers from unbundling obligations.” (CONb at 7). Fiber pairs that have not been installed or allocated to serve a particular customer in the near future should not, Conversent claimed, be reserved by Verizon NJ. (Ibid.). In support of its position, Conversent relied upon the Massachusetts Department of Telecommunications and Energy decision that “a general statement by [Verizon] that a fiber is needed for unspecified of general future growth, or even for a particular customer’s potential long term growth, will not suffice to relieve it of its obligation to offer the dark fiber [as a UNE].”<sup>60</sup> (Ibid.).

### **4. Ordering**

Verizon NJ stated that “when a CLEC orders dark fiber, [it] will allow the CLEC to obtain information on the location of available dark fiber through a simple, systematic and thorough process.” (VNJb at 217). The process was explained by Verizon NJ as follows:

First, when a CLEC makes a request, Verizon NJ will review its records and its known, near-term requirements and determine if spare fiber is available in the amount and location requested. A CLEC only pays the costs of this review if and when it places an order for dark fiber. Second, a CLEC can request a field survey (at time and materials charges) during which Verizon NJ will verify the availability of specific dark fiber pairs and test the fiber’s transmission capabilities. Third, a CLEC can request a wire center map from Verizon NJ (also at time and materials charges subject to the CLEC’s prior approval) which will show street level detail of where fiber optic cables exist.

[Id. at 217-218 (footnotes omitted)].

This process, Verizon NJ argued, provides the CLECs information to assess whether the available fiber meets its needs even though the FCC does not require the provisioning of such information to CLECs. (Id. at 218). Verizon NJ also rebutted AT&T’s and Conversent’s

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<sup>59</sup> Exh. Covad-1, Joint Rebuttal Testimony of Terry L. Murray and Joseph P. Riolo on Behalf of Covad Communications Company, at 91 (dated October 12, 2000) (“Covad Rebuttal”).

<sup>60</sup> Phase III Order, Consolidated Petitions of New England Telephone and Telegraph Company d/b/a NYNEX, et al., Mass. DPO Docket Nos. 96-73/74/ 96-75, 96-80/81, 96-94 (December 4, 1996) at 49-50.

assertion that it does not provide an adequate ordering process for dark fiber by reiterating that Verizon NJ provides such information, including indicating whether fiber exists along a particular route and suggesting alternate routes, even though not obligated by the FCC to do so. (VNJrb at 208). Verizon NJ noted that the only difference in this process between treatment of the CLEC and Verizon NJ is that the CLEC must submit a specific inquiry through an order process while Verizon NJ does not submit such a formal written request to its internal network. (VNJb at 219).

Additionally, Verizon NJ explained that in lieu of providing maps depicting fiber routes beyond a SWC, which “are not provided due to network security concerns and proprietary information,” it “makes available to CLECs engineering records and information indicating where the dark fiber currently exists.” (*Id.* at 218; VNJrb at 208). Verizon NJ claimed that the same maps would be reviewed for a CLEC inquiry regarding the dark fiber route as a Verizon NJ inquiry. (VNJb at 218). The inquiry is answered, as Verizon NJ described, based on the availability of fiber between two points. (*Ibid.*). Verizon NJ clarified that it would supplement its response, as it already does, by giving alternate routes “by saying [the dark fiber] goes from A to B to C,” for a fee. (*Ibid.*). Upon choosing dark fiber pairs, Verizon NJ explained that the CLEC has the option of ordering any pairs it chooses, canceling any pairs not needed, or trying a series of pairs to determine which pair fits its specific requirements. (*Id.* at 219). For these reasons, VNJ maintained that its ordering process is reasonable. (*Ibid.*).

### **AT&T Position**

AT&T claimed that Verizon NJ’s process for ordering dark fiber was inadequate. (AT&Tb at 240). According to AT&T, an appropriate process would allow CLECs reasonable access to VNJ’s pole and conduit maps and records, or other records that would contain the necessary dark fiber information on two business days notice or a CLEC could submit an inquiry to VNJ. (*Ibid.*). AT&T also criticized Verizon NJ’s ordering process for not giving CLECs access to the same information to which Verizon NJ has access. (AT&Trb at 119). For example, AT&T claimed that Verizon NJ limits access to maps depicting fiber routes between wire centers to only its engineers. (*Ibid.*). AT&T contended that “aside from security concerns that can be adequately addressed”, VNJ offered no basis for this discriminatory limitation, which should therefore, be rejected, with CLECs having access to the same dark fiber maps as VNJ. (*Ibid.*; AT&Tb at 241). AT&T thus urged the Board to reject Verizon NJ’s ordering process and adopt the following process and schedule proposed by AT&T:

An appropriate process would allow CLECs reasonable access to VNJ's pole and conduit maps and records, or other records that would contain the necessary dark fiber information, on two business days notice or a CLEC could submit an inquiry to VNJ. The inquiry should set forth the route where dark fiber is requested and should be responded to in a reasonable time frame. The response should set forth the availability of dark fiber across the route and not simply availability from point A to point B as VNJ proposes.

[AT&Tb at 240].

### **Conversent Position**

Conversent argued that the terms and conditions related to Verizon NJ's ordering and provisioning of dark fiber are unrelated to Verizon NJ's carrier of last resort responsibilities and are unreasonable. (CONb at 6). Conversent claimed that Verizon NJ should be required to cooperate with CLECs to determine where dark fiber IOF is routed and should provide access to the same maps and data that are available to VNJ planners and engineers, subject to a reasonable confidentiality agreement. (Id. at 8). Conversent argued that in situations where Verizon NJ notifies a CLEC that dark fiber is not available in a specific location, Verizon NJ "should be required to provide, upon request, all documentation demonstrating that no fiber is available." (Ibid.). Conversent also asserted that Verizon NJ should provide a CLEC with the transmission characteristics of the dark fiber at the time it was originally installed.<sup>61</sup>

### **Sprint Position**

Sprint noted that Verizon NJ had appeared to modify its position on the ordering of dark fiber during the course of the hearing in such a way as to allow CLECs access to the information in a less burdensome manner. (Surb at 2). However, to ensure that CLECs can order dark fiber to serve their customers, Sprint urged the Board to direct Verizon NJ to follow through on the commitment to work with CLECs to find routes for them and develop a means to make route map information readily available to CLECs. (Ibid.).

### **Board Discussion – Dark Fiber**

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<sup>61</sup> Ibid. citing to New England Telephone and Telegraph Company, DTE MA No. 17, 17.2.1.6.

The issues surrounding dark fiber deal generally with the parties' disagreement over dark fiber rates, the definition of "dark fiber", practices regarding maintenance and spare, and ordering procedures.

We have reviewed Verizon NJ's proposed rates in the context of our review of all recurring and non-recurring rates. In that review, we directed specific adjustments to the models that we found were justified to ensure that the ultimate rates are TELRIC-compliant. Based upon our previous analysis, we **HEREBY ADOPT** Verizon's proposed dark fiber rates as modified to reflect and incorporate the applicable modified inputs and assumptions to the models. In setting the rates, we agree with Verizon NJ which cautioned against simply adopting rates that have been approved in other states. While we believe that rates in other states may provide guidance, it would be necessary for us to fully analyze and understand the context in which they were derived, which we decline to do at this juncture given that a New Jersey specific study is available to us, which, with the modifications to inputs and assumptions we have made, we find results in this and reasonable dark fiber rates.

With regard to Verizon NJ's proposed definition of "dark fiber," we are extremely concerned that Verizon NJ's definition is inconsistent with the actual definition articulated by the FCC in the UNE Remand Order. Verizon NJ defined "dark fiber" as "a spare, unlit continuous fiber optic strand, without enhancing electronics/photonics, within an existing, in-place fiber optic cable sheath." (VNJb at 212). The CLECs and the Advocate all point out that Verizon NJ's definition is inconsistent in that it is more restrictive than the FCC's definition that "[d]ark fiber is deployed, unlit fiber optic cable that connects two points within the incumbent LEC's network. (UNE Remand Order at ¶ 325). Verizon NJ's definition adds such language as "existing, in-place fiber optic cable sheath" and "spare" and "continuous." Some parties also criticized Verizon NJ's definition for including the term "photonics," along with "electronics" to describe dark fiber.

Various parties are concerned that the Verizon NJ definition limits CLEC access to facilities and imposes discriminatory conditions in ways not contemplated by the FCC. They argued that the term "spare" subjectively leaves it to Verizon NJ to decide what constitutes spare and is a likely potential source of abuse. In addition, they contended that the term "continuous" restricts CLECs' access to end-to-end fiber between two points while Verizon NJ may access dark fiber at intermediary points along the route. In its support of its proposed definition, Verizon NJ argued

that it is not obligated by the FCC to provide access to dark fiber at splice points and that doing so would be tantamount to constructing new facilities. The CLECs also argued that the term “continuous”, as used by Verizon NJ, is designed to prevent it from routing fiber through one central office to another. According to Verizon NJ’s proposal, CLECs would be permitted to route dark fiber through a central office provided the CLEC has collocation facilities in the location and the fiber is terminated at a hard termination point. In support of its position, Verizon NJ argued that routing dark fiber through intermediate central offices where CLECs do not have collocation facilities has resulted in quality complaints from customers in at least one other state.

As for the language “existing, in-place fiber optic cable sheath.” Verizon NJ explained that it included the language to make clear that its obligation regarding access to dark fiber only extends to facilities deployed in its network and not to yet to be deployed fiber.

Based upon the record, and after careful consideration of the parties’ arguments, as well as the FCC’s UNE Remand Order, we **FIND** that it is necessary to modify Verizon NJ’s definition of “dark fiber.” We agree with arguments that Verizon NJ’s definition is both limiting and discriminatory. While Verizon NJ has an obligation to provide a high level of service to both its wholesale and retail customers and the Company claimed it, therefore, found it necessary to include “spare” in its definition, the term “spare” was never quantified to our satisfaction to permit us to adopt set reasonable limits.

As for the term “continuous,” we agree with Verizon NJ that CLECs should not be permitted to splice into fiber routes between central offices. We decline to order that CLECs be permitted access to portions of dark fiber, i.e., sub-loop unbundling of dark fiber between fiber routes. A CLEC should be required to purchase the entire piece of fiber that it intends to use. In our view, splicing into dark fiber is an inefficient and wasteful use of these valued facilities and could have the effect of stranding many unused pieces of fiber in which Verizon NJ would be responsible for potentially denying other CLECs access to dark fiber.

We disagree, however, with Verizon NJ’s contention that CLECs must be collocated in a central office in order to route dark fiber. Verizon NJ’s collocation requirement needlessly inflates the cost of providing service to CLECs

Therefore, Verizon NJ is **HEREBY DIRECTED** to eliminate its references to “spare” and “continuous” in describing dark fiber. Verizon NJ is further **DIRECTED** to notify the Board within 5 business days if it believes that the quantities of dark fiber available in any route have reached a level whereby continuing to provide access to CLECs jeopardizes the network. Upon notification, the Board shall review all the available data concerning the condition. In addition, Verizon NJ is **DIRECTED** to permit CLECs to route dark fiber through intermediary central offices without the need to establish collocation facilities in each central office using cost-based cross connections.

While we are sensitive to the CLECs’ concerns regarding Verizon NJ’s use of the language “existing, in-place fiber optic sheath,” we agree with the Company that it is necessary to clarify that the Company’s obligation does not extend to building new facilities for CLEC’s. It does not, however, preclude CLECs’ access to dark fiber that is put into service in the future by the Company and accordingly VNJ is **DIRECTED** to make available dark fiber that it hereinafter deploys, consistent with the rates, terms and conditions for dark fiber approved herein.

With regard to maintenance and spare, Verizon NJ seeks to reserve what it describes as a reasonable quantity of dark fiber to meet known, near-term customer service requirements. (VNJb at 216-217). According to the Company, the reserved dark fiber would be used for emergency repairs, network rearrangements and fiber identified for network survivability projects. (*Id.* at 217). The CLECs generally argued that such a provision could allow Verizon NJ to warehouse dark fiber for its own use.

While the Board is sensitive to the CLECs’ concerns regarding Verizon NJ’s reservation policy, we decline, however, to make modifications in this regard at this time. We note that we have already directed Verizon NJ to eliminate the term “spare” from its definition and directed the Company to notify the Board when it claims a jeopardy situation exists. It is our view, however, that Verizon NJ is correct in its thinking to reserve an amount of dark fiber for maintenance and known, near-term requirements. We also believe that CLECs should have the ability to challenge any claims by Verizon NJ that sufficient dark fiber does not exist. Therefore, in the event that a CLEC’s request for dark fiber is denied by the Company, Verizon NJ is **DIRECTED** to provide specific details to the CLEC and Staff for review within five calendar days of the rejection providing support for the denial. Upon review, Staff will make an appropriate recommendation to the Board if further action is required.

As for ordering procedures, the Board is concerned that VNJ's ordering procedures disadvantage and discriminate against CLECs by only testing the number of Dark Fiber pairs it orders and if the pairs do not meet VNJ's or the CLEC's transmission quality standards, the CLEC must start the Ordering process over again. Therefore, VNJ is **DIRECTED** to provide CLECs with the actual number of working Dark Fibers it orders regardless of how many it needs to evaluate to do so.

Earlier we described Verizon NJ's proposed ordering procedures for CLECs. The Company presented a process whereby it initially would review its records, conduct a field survey, if requested, to identify the availability of specific dark fiber pairs, and finally provide certain wire center maps showing the street level detail of where the cable exists. The Company declined to provide maps between servicing wire centers citing network security concerns.

The CLECs argued that Verizon NJ's ordering process is discriminatory because they are not provided with the exact same maps and data that is available to Verizon NJ's engineers. In addition, they argued that the ordering process needs to be modified to eliminate the condition that requires the CLEC to start the ordering process at the beginning if the specific fibers initially identified by Verizon NJ are incapable of being put into service.

We are concerned that Verizon NJ's ordering procedure is discriminatory to CLECs in that the Company would require CLECs to resubmit an order if the fibers originally identified by VNJ failure to pass transmission quality standards and will take the necessary steps to modify them. However, we believe that the Company's proposed procedures related to the availability of maps showing dark fibers routes are reasonable. We agree with the Company that network security must not be compromised. We do, however, caution Verizon against holding back maps beyond the serving wire center without just cause. In this regard, the Company must work cooperatively with CLECs to ensure that they receive data at parity to the Company in a format that would not jeopardize network security. In the event that a CLEC still requires further data and is unable to obtain it from the Company it should submit a letter to Staff detailing the dispute, upon receipt, Staff will review the information and recommend an appropriate action. As for the CLECs' other concerns regarding the test of dark fiber pairs, the Company is **HEREBY DIRECTED** to provide CLECs with the actual number of working dark fibers it orders regardless of how many it needs to evaluate during the initial process.

## **D. Reciprocal Compensation**

### **Statement of the Issue**

Section 251(b)(5) provides that all LECs, including incumbent LECs, have the “duty to establish reciprocal compensation arrangements for the transport and termination of telecommunications.” Section 252(d)(2) provides that the State Commission shall not consider the terms and conditions for reciprocal compensation to be just and reasonable unless those terms and conditions both: (1) provide for the mutual and reciprocal recovery by each carrier of costs associated with the transport and termination on each carrier’s network facilities of calls that originated on the network facilities of the other carrier;<sup>62</sup> and (2) determine such costs on the basis of a reasonable approximation of the additional costs of terminating such calls.<sup>63</sup> The Board will now consider the appropriate methodology for determining reciprocal compensation charges, and the appropriate rate that flows from that methodology.

### **Positions of the Parties**

#### **Verizon NJ Position**

During the proceeding, Verizon NJ argued that the Board should refuse to address the issue of reciprocal compensation because it is not a proper issue in this proceeding. (VNJb at 219). According to Verizon NJ, the issue of reciprocal compensation was not one of the issues delineated by the Board for discussion during this proceeding, and “the treatment of ISP traffic is outside the limited scope of the federal district court remand.” (*Id.* at 219-220). Verizon NJ also pointed out that “the FCC recently asserted jurisdiction regarding the treatment of ISP traffic and determined that ISP traffic is not subject to reciprocal compensation.”<sup>64</sup>

Verizon NJ claimed that AT&T’s reciprocal compensation argument is “really a brief in support of a cap on switching costs.” (VNJrb at 208). Verizon NJ refuted AT&T’s conclusion that “because the FCC capped intercarrier compensation rates, the FCC intended to have its decision with respect to those rates determine the level of switching rates nationwide,” stating that such a far reaching and preemptive interpretation “would have been extraordinary in view of

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<sup>62</sup> 47 U.S.C. § 252(d)(2)(A)(i).

<sup>63</sup> 47 U.S.C. § 252 (d)(2)(A)(ii).

<sup>64</sup> (*Id.* at 220, referring to the FCC’s Order on Remand and Report and Order, I/M/O Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, and I/M/O Intercarrier Compensation for ISP-Bound Traffic, CC Docket Nos. 96-98 and 99-68, FCC 01-131 (April 27, 2001) (hereinafter, “Intercarrier Compensation Order”) at ¶¶23, 49, passim).

the Act and the role of state commissions in the scheme designed by Congress.” (Id. at 209). Verizon NJ noted that “[a]t the very least, the FCC would have at least addressed the issue.” (Ibid.). In addition, Verizon NJ argued that the Board should reject Sprint’s recommendation that the Board state that it would consider Sprint’s reciprocal compensation proposal should the FCC’s Intercarrier Compensation Order be overturned or stayed. (Ibid.).

Finally, Verizon NJ urged the Board to reject Cablevision’s argument that reciprocal compensation should be set at the tandem switching rate. (Id. at 209-210). Verizon NJ claimed that “the FCC never required ILECs to pay CLECs the tandem switching rate, in fact, the FCC itself observed that in certain instances the end office rate would apply.” (Id. at 210). Verizon NJ explained that “the tandem rate may apply only if the CLEC demonstrates that its switch is functionally equivalent to the ILEC’s tandem switch and serve a geographic area comparable to that served by the ILEC’s tandem.” (Ibid.). Verizon NJ stressed that Cablevision had “made no showing and does not even claim to have switches with functionality or geographic reach comparable to the ILEC tandem switches in New Jersey.” (Ibid.). Verizon NJ concluded that the “applicable rate may only be determined on a case-by-case basis and certainly not in this proceeding.” (Ibid.).

### **AT&T Position**

AT&T argued that the FCC’s recent Intercarrier Compensation Order established an interim compensation regime for reciprocal compensation payments on a prospective basis for traffic terminated to ISPs. (AT&Tb at 242-247). AT&T stated that the reciprocal compensation issue was properly before the Board. (AT&Trb at 119-121). According to AT&T, “[b]ecause terminating a local call is functionally the same as switching a local call, it follows that the rates established by the FCC’s interim transition regime for reciprocal compensation must also be adopted for switching.” (Id. at 121-122).

### **Cablevision Position**

Cablevision also argued that this issue is properly before the Board. (CLrb at 1-2). Cablevision contended that reciprocal compensation should be set at the tandem switching rate. (CLb at 4-5). Cablevision stated that “federal law clearly requires that CLECs receive the tandem rate for traffic terminated on their network.” (Id. at 5, referring to the FCC’s Notice of Proposed Rulemaking, I/M/O Developing a Unified Intercarrier Compensation Regime, CC Docket No. 01-92 (April 27, 2001) (hereinafter, “Intercarrier Compensation Rulemaking”) at ¶105).

### **Sprint Position**

Sprint noted that the FCC issued a determination that traffic delivered to an internet service provider ("ISP") should not be subject to reciprocal compensation. (SUB at 12).

Notwithstanding the FCC's determination, Sprint argued that "to the extent that the FCC's Order is overturned or stayed, the Board should consider adoption of Sprint's bifurcated proposal for reciprocal compensation. (Ibid.).

### **Board Discussion – Reciprocal Compensation**

As an initial matter, the Board disagrees with Verizon NJ's assertion that reciprocal compensation is not properly part of this proceeding. In fact, the Board, at the outset of this proceeding, stated that it would re-evaluate all UNE rates considered in the Board's Generic Proceeding (Docket No. TX95120631). However, with regard to compensation for ISP-bound traffic, and in light of the FCC's Intercarrier Compensation Order and Rulemaking, we agree with Verizon NJ that this proceeding is not the right forum to consider the merits of the issue.<sup>65</sup> Therefore, we decline to address the issue at this time.

However, the issue of reciprocal compensation is another matter. Generally, the question before the Board is whether the end office, tandem or a combination of the two should be used to compensate a carrier for traffic that is terminated on its network. Based upon the record developed in this proceeding, we **FIND** that the end-office rate should be adopted as the appropriate reciprocal compensation rate. However, in an appropriate forum, CLECs may provide specific data to VNJ and the Board demonstrating that the tandem rate should apply for traffic, consistent with FCC regulations.

We **REJECT** AT&T's claim that the FCC's Intercarrier Compensation Order requires switching rates to be based on the reciprocal compensation rates developed in that FCC Order, as not being based in fact or in law.

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<sup>65</sup> The Board notes that AT&T's complaint regarding reciprocal compensation payments from VNJ is now before the Office of Administrative Law. See AT&Trb at 243.

## **E. Sub-Loop Unbundling**

### **Statement of the Issue**

The issue before the Board is whether we should require Verizon NJ to further unbundle the local loop to give CLECs the ability to purchase sub-loop elements, in addition to the loop in its entirety. Possible sub-loop elements include a dark fiber sub-loop offering and a standardized sub-loop UNE offering for feeder sub-loop.

### **Positions of the Parties**

#### **Verizon NJ Position**

According to Verizon NJ, in addition to its two standardized offerings, distribution and remote terminal collocation, it is ready to negotiate additional offerings upon request. (VNJb at 221). Verizon NJ explained that additional types of sub-loops have not been structured as standardized offerings because of a lack of bona fide requests or interest from CLECs. (*Ibid.*). Verizon NJ stated that, due to recent inquiries, it “is beginning to analyze requirements for a standardized feeder sub-loop offering.” (VNJrb at 211). In addition, Verizon NJ argued that the Advocate’s recommendation to limit sub-loop rates to those in effect for Verizon Pennsylvania was inappropriate “because each state has its own costs and characteristics and the Act requires that UNE rates be cost-based.” (*Ibid.*). Verizon NJ stated that Sprint’s request that UNE-P should not be limited to combinations in place for existing customers was inappropriate because the Board had already addressed UNE-P terms and conditions in another proceeding. (*Ibid.*). Verizon NJ also argued that if AT&T’s interpretation that the FCC’s recent Order regarding Multiple Dwelling Units requires competitors to have “access to conduit and rights of way owned or controlled by a utility” is correct, then there should be no need for the Board to also order such access. Conversely, Verizon NJ argued that “if the Order requires access only in certain circumstances, then AT&T’s recommendation is without foundation because it is fundamentally not based on the FCC’s Order.” (*Id.* at 212).

#### **Advocate Position**

The Advocate argued that Verizon NJ’s subloop rates should be “no higher than those proposed by Verizon in Pennsylvania.” (Ab at 153-154). In addition, the Advocate objected to VNJ’s individual customer basis (“ICB”) proposal for remote terminal (“RT”) collocation, referred by Verizon NJ as Collocation at Remote Terminal Equipment Enclosures (“CRTEE”), non-recurring

rates and its use of other rates contained in VNJ's Tariff B.P.U. No.1 for Central Office Collocation CRTEE recurring charges. (Ab at 154-155).

### **AT&T Position**

AT&T argued that the Board should "explicitly find that VNJ's proposed standardized offerings are not exclusive and are not limiting in any manner." (AT&Trb at 122). Moreover AT&T argued that the Board should adopt the following parameters to facilitate negotiations with Verizon NJ:

First, the Board should reject VNJ's attempt to restrict access to sub-loops to limited interconnection points.

Second, the Board should adopt Sprint's recommendation establishing the sub-loop feeder as a standardized offering.

Third, all sub-loops must be made available at forward-looking rates.

Fourth, an expedited process for resolving disputes arising in sub-loop negotiations should be adopted.

Fifth, access to sub-loops must be provided in a commercially reasonable, non-discriminatory time interval.

[Id. at 122-123].

AT&T further argued that "[r]ecent FCC actions establish a framework for states that helps to assure that CLECs will have nondiscriminatory access to customers in Multiple Tenant Environments ("MTEs") and Multiple Dwelling Units ("MDUs")." (AT&Tb at 247, referring to the FCC's Fourth Report and Order and Memorandum Opinion and Order in CC Docket No. 88-57 (October 25, 2000) (hereinafter, the Building Access Order). AT&T asserted that the FCC's Building Access Order "provided further clarification regarding rules governing on-premises wiring so as to foreclose purported ambiguity regarding ownership of such wiring becoming a means for the ILEC to prevent or delay competitive entry." (Id. at 248-249).

### **Sprint Position**

Sprint offered the following three recommendations related to sub-loop unbundling:

Sub-Loop Qualification Information - This is another area in which, during the proceeding, Verizon appeared to indicate that it would work to ease difficulties in obtaining access to this information. The Board should include a specific requirement, with deadlines,

in its Order in this matter, and maintain its oversight over Verizon with respect to following through on this commitment.

Sub-Loop Unbundling - Verizon must be required to develop a standardized feeder subloop offering for all technologies, including dark fiber.

UNE-P - The availability of UNE-P should not be limited to combinations which are serving a customer, at the time a customer switches to service from a CLEC. Any UNEs which are ordinarily or currently combined in the Verizon network, should be provided to any CLEC for service to any customer.

[SUrb at 2].

### **Board Discussion – Sub-Loop Unbundling**

Based upon the record in this matter, we agree with the CLECs that argue that Verizon NJ's filing is deficient by not including a standardized sub-loop offering for the feeder portion of the loop. Verizon even acknowledges that it is in the process of developing such a proposal. (VNJrb at 211). Therefore, we **HEREBY DIRECT** the Company to modify its sub-loop proposal to include a standard offering for Sub-Loop Unbundling of the Feeder portion of the loop. In addition, we agree with the Advocate that Verizon NJ's ICB rate proposal for CRTEE offerings is problematic. The Board agrees that it would be "difficult . . . for a CLEC to generate a business plan that relied on CRTEE if the rates that Verizon NJ would assess on that CLEC could vary for each of the 2,200 RTs in New Jersey." (Ab at 155). Accordingly, the Board **FURTHER DIRECTS** the Company to file a standard offering for Collocation at Remote Terminal Equipment Enclosures.

The Company must file with the Board a proposal containing these modifications within sixty (60) days of the date of the Order in this matter, including rates, terms and conditions for Sub-Loop Unbundling at the Feeder Distribution Interface and its proposed CRTEE, providing copies to the entire service list attached to this Order.

As for Sprint's request regarding access to UNE-P combinations, we agree with Verizon NJ that the Board has already spoken on that issue, and direct the company to the Board's October 6, 1999 Order in that matter.

## **F. Customer Specific Pricing Arrangements**

### **Statement of the Issue**

The Board will now consider whether Verizon NJ is meeting its wholesale obligations related to Customer Specific Pricing Arrangements. A Customer Specific Pricing Arrangement (“CSPA”) is a special arrangement that Verizon NJ enters into with a customer at off-tariff rates. The Company states that it is willing to offer CSPAs to CLECs provided that the CLEC’s customer is similarly situated to VNJ’s customer for which the CSPA was entered into. Specifically, we must determine whether the proper standard is that (1) the reseller’s customer is similarly situated or (2) the reseller meets the volume requirements of the CSPA.

### **Positions of the Parties**

#### **Verizon NJ Position**

Verizon NJ argued that no parties introduced evidence on customer specific pricing arrangements and stated that it “stands ready to resell to any CSPA provided that the customers are similarly situated.” (VNJb at 221; VNJrb at 212).

#### **AT&T Position**

AT&T argued that “the Board should hold that a reseller qualifies to purchase a CSPA at wholesale rates, as long as the reseller meets the volume requirements of the CSPA on the basis of the aggregated volumes of its customers.” (AT&Trb at 123).

### **Board Discussion – Customer Specific Pricing Arrangements**

While we agree with Verizon NJ that a CSPA should only apply to similarly situated customers, the FCC’s requirements are clear in this regard, and the term, “similarly situated” must be understood in the context of the FCC’s requirements. According to the FCC:

it is presumptively unreasonable for incumbent LECs to require individual customers of a reseller to comply with incumbent LEC high-volume discount minimum usage requirements so long as the reseller, in the aggregate under the relevant tariff, meets the minimal level of demand. Thus, a CSA resale restriction simply forbidding volume aggregation, without economic justification, is presumptively unreasonable.

[Memorandum Opinion and Order, Application of BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, InterLATA

Services in Louisiana, cc Docket No. 98-121, FCC 98-271 (October 13, 1998) at ¶317; see also, e.g. Local Competition Order at ¶953].

Therefore, we **DIRECT** Verizon NJ to provide CSPAs consistent with the FCC's requirements that usage in the aggregate for all of a CLEC customers must meet the same standards as applied to a Verizon NJ individual customer that is being served under the CSPA. Consistent with the FCC requirements, Verizon NJ is permitted to make a showing to the Board that unique economic conditions exist that may support the conclusion that the CSPA should not be offered to a specific competitor at the wholesale discount.

## **G. Development Of Revised UNEs Filed After December 1997**

### **Statement of the Issue**

This issue refers to whether the additional UNEs that have been developed and filed with the Board since the Generic Order need to be reevaluated in the context of this case. The discussion between the parties, however, has been limited to the issue of provisioning expanded extended loops ("EELs").

### **Positions of the Parties**

#### **Verizon NJ Position**

According to Verizon NJ, Cablevision's concerns over the terms and conditions of the EEL offering and its "request that Verizon NJ correct its EEL offering for New Jersey are completely out-of-place in this proceeding, which concerns only Verizon NJ's costs of providing service." (VNJrb at 213). Verizon NJ stated that it was "notable that Cablevision Lightpath is silent concerning the cost results presented by Verizon NJ." (*Ibid.*). Additionally, Verizon NJ argued that its offering is entirely consistent with the FCC's decisions on this subject. (*Ibid.*). Furthermore, Verizon NJ claimed that it does not impose any requirements or restrictions on a CLEC if the number of EEL arrangements actually ordered is less than or exceeds the forecasted number, in contravention to Cablevision's assertion. (*Id.* at 214). Verizon NJ asserted that the information subject to Verizon NJ's audit is relevant to assessing the CLEC's use of the EEL and Cablevision does not suggest otherwise.<sup>66</sup> (*Ibid.*).

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<sup>66</sup> In the FCC's Supplemental Order Clarification, I/M/O Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, cc Docket No. 96-98, FCC 00-183 (June 2, 2000) at ¶29, the FCC clarified that incumbent LECs must allow requesting carriers to self-certify that they are providing a significant amount of local exchange service over combinations of UNEs. At the same time, the FCC allowed incumbent LECs to conduct limited audits only to the extent necessary to determine a requesting carrier's compliance with the local usage options.

Verizon NJ argued that Cablevision's demand that CLECs be able to convert their existing special access service to Verizon NJ's cost-based EEL pricing immediately upon the effective date of the revised UNE rates defied commercial reality. (*Id.* at 215). In support of its position, Verizon NJ explained that it "now provides a 30 calendar day or less effective date to convert existing special access service arrangements to EEL arrangements, which "strives to meet both customer concerns about service interruption and CLEC concerns about timely billing credit." (*Ibid.*). Verizon NJ asserted that "[b]ased on actual experience, the '30 calendar day or less' interval is ambitious -- in part due to CLECs' failure to provide accurate and complete data as required under the Conversion Guidelines, -- and assumes efficiencies will be realized over time in processing conversions of special access to UNE EEL arrangements." (*Ibid.*). With regard to maintenance standards, Verizon NJ argued that its filed service offering that all EEL arrangements will be subject to the POTS, 2/4 Wire Analog Loop or 2 Wire Digital ISDN Loop maintenance standards are "wholly appropriate standards in light of the fact that EELs are used by CLECs to provide significant local dialtone traffic." (*Id.* at 216). Verizon NJ urged that Cablevision's request that the Board modify these standards be rejected as "unsubstantiated." (*Ibid.*).

### **Cablevision Position**

Cablevision argued that Verizon NJ's EEL offerings must be corrected to ensure the regulatory framework properly supports facilities-based competition in New Jersey. (CLrb at 3).

Specifically, with regard to EELs, Cablevision requested that the Board do the following:

- Require Verizon to provide the same maintenance standards applied to its access service to DS1 and DS3 EELs;
- Require Verizon to adopt EEL forecasting requirements for New Jersey that permit CLECs to update their forecasts once every month;
- Prohibit Verizon from placing any additional requirements or restrictions on a CLEC if the number of EEL arrangements actually ordered is less than or exceeds the forecasted number;
- Limit Verizon's EEL audit requests to information that is directly relevant to assessing the use of the EEL;
- Confirm that CLECs are able to convert their existing special access service -- that are utilized consistent with the EEL local exchange usage requirements -- to Verizon's EEL cost-based pricing immediately upon the effective date of the revised UNE rates. (CLb at 3).

**Board Discussion – Development of Revised UNEs Filed After  
December 1997**

While the Board is concerned with the issues raised regarding UNEs that have been identified since the Generic Order, many of Cablevision's arguments are similar to the positions its has argued previously that were not adopted by the Board. However, there is merit in Cablevision's request to be permitted to update their forecasts on a monthly basis, and to limit Verizon NJ's audit requests to information directly relevant to assessing EEL usage. Accordingly, the Board **DIRECTS** Verizon NJ to permit such forecasts to be updated monthly, or periodically, to reflect changed business conditions, and to limit audit requests to information directly relevant to the assessment of EEL usage. We note that Verizon NJ has asserted that it imposes no requirements or restrictions on a CLEC if actual EEL orders are less than or more than the CLEC's forecasted number. The Board expects that Verizon NJ's practices will strictly adhere to this claim.

**H. Other BA/GTE Merger Condition Issues**

**Statement of the Issue**

Parties allege that certain conditions imposed by the FCC as conditions to its approval<sup>67</sup> of the merger of the then Bell Atlantic Corporation and GTE Corporation relate to the Board's determination of the appropriate level of UNE rates in this proceeding. These conditions include: (1) the implementation of "best practices" by Bell Atlantic/GTE (now Verizon); (2) the promotional discounts that Verizon NJ is required to charge; and (3) equipment transfers to Verizon Advanced Data Inc. ("VADI").

**Positions of the Parties**

**Verizon NJ Position**

Verizon NJ initially did not raise any arguments with regard to this issue because it asserted that "[n]o parties introduced evidence regarding conditions associated with the Bell Atlantic and GTE Merger." (VNJb at 221). In its reply brief, however, Verizon NJ criticized AT&T's position as one that "seeks to advance several of its policy objectives by attempting to turn them into issues in this proceeding in the guise of 'compliance with Merger Conditions.'" (VNJrb at 216). In rebuttal to AT&T's position, Verizon NJ argued that it is committed to employ best practices, but

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<sup>67</sup> See Memorandum Opinion and Order, In re Application of GTE Corporation and Bell Atlantic Corporation for Consent to Transfer Control of Domestic and International Section 214 and 310 Authorizations and Application to Transfer Control of Submarine Cable Landing License, CC Docket No. 98-184, FCC 00-221 (June 16, 2000) (hereinafter, "BA/GTE Merger Order").

“such an undertaking does not mean that those practices will result in uniform costs in each state.” (*Ibid.*). Verizon NJ explained that “labor rates, local conditions, and other characteristics which impact costs will not go away because best practices are employed.” (*Ibid.*).

With regard to promotional discounts, Verizon NJ stated the following: “[m]erely that Verizon agreed to take less than what it was legally entitled to receive, in cost recovery for the provisioning of certain UNEs as a condition of the Merger approval, does not evidence (as AT&T suggests) that Verizon’s costs are any lower than the UNE rates.” (*Id.* at 216-217). Verizon NJ asserted that “[t]o suggest otherwise is to minimize the significance of the current New Jersey proceeding, where costs are being thoroughly addressed.” (*Id.* at 217).

Verizon NJ also argued that, “[b]ecause no equipment has been transferred to Verizon Advanced Data Inc. (“VADI”), AT&T’s request that the Board reduce Verizon NJ’s costs by the amount of the costs that would thereby be avoided is premature.” (*Ibid.*). In response to AT&T’s allegation that a recent D.C. Circuit Court decision<sup>68</sup> requires compliance with Section 251(c) of the Act with respect to advanced services, including the obligation to offer advanced services for resale at a wholesale discount, Verizon NJ explained that the merger conditions themselves make clear that neither the FCC nor Verizon NJ ever intended to avoid otherwise applicable statutory obligations. (*Ibid.*). Finally, Verizon NJ explained that “[a]s for the Bell Atlantic/GTE merger, it is expected, consistent with prior experience, that the merger will generate significant costs, not savings, in the first year.” (VNJb at 65).

### **Advocate Position**

The Advocate argued that the Board “should additionally recognize merger synergies in its determination of Verizon NJ’s switch costs.” (Ab at 79). The Advocate further argued that the merger savings should be passed through to New Jersey consumers in the form of lower UNE rates. (*Id.* at 80).

### **AT&T Position**

AT&T argued that the FCC’s objective of facilitating the spread of best practices can be achieved only if Verizon NJ is required to import into New Jersey the lowest costs that Verizon will incur, and if its UNE costs are no greater than the charges for UNEs in the other states of its region. (AT&Tb at 254-255). AT&T also argued that Verizon’s willingness to offer promotional

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<sup>68</sup> *Association of Communications Enterprises v. FCC.*, 235 F.3d 662 (D.C. Cir. 2001) (hereinafter, “Ascent”).

discounts, as conditions of the Bell Atlantic/GTE merger approval, of an average of 25 percent from its monthly recurring charges for loops, is compelling evidence that those charges are well above TELRIC levels. (*Id.* at 255). AT&T claimed that because Verizon NJ has not yet provided the auditor<sup>69</sup> with information regarding the type, amount, and value of the equipment that was actually transferred to the separate affiliate, the Board cannot determine that a corresponding reduction in the TELRIC level is warranted. (*Id.* at 256). Finally, AT&T argued that Verizon NJ, pursuant to the Ascent decision, must now comply with Section 251(c) obligations with respect to advanced services, and has not yet shown that it has complied. (*Id.* at 257-258, citing Ascent supra, at 668).

### **Board Discussion – Other BA/GTE Merger Condition Issues**

While we agree with AT&T that Verizon NJ's merger conditions are relevant to New Jersey, the actual enforcement of those conditions, that are not also State requirements, are outside of the scope of the Board's purview. With regard to AT&T's assertions regarding Verizon NJ's Section 251(c) obligations in light of the Ascent decision, nothing in this Order is intended, nor should this Order be read, to relieve Verizon NJ of any requirements under Federal law. The Board also notes, in this regard, that Verizon NJ's resale obligations were not at issue in this Docket. It should be further noted that the FCC recently relieved Verizon NJ of certain of its merger commitment obligations, and clarified others, making moot several of AT&T's concerns.<sup>70</sup> Verizon NJ's compliance with the remaining conditions resides with the FCC.

## **I. Monitoring Reports**

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<sup>69</sup> As a condition the Bell Atlantic/GTE merger approval, the FCC required that all advanced services provided by the newly created Verizon be provided by one or more separate affiliates, and imposed nondiscrimination safeguards and rigorous audit requirements to ensure that competing providers of advanced services would receive the same treatment from Verizon as the advanced services affiliates. See BA/GTE Merger Order, at ¶¶ 260-264, and Appendix D, ¶¶ 1-12.

<sup>70</sup> See the Common Carrier Bureau's Order in In re Application of GTE Corporation and Bell Atlantic Corporation for Consent to transfer Control of Domestic and International Section 214 and 310 Authorizations, etc., CC Docket No. 98-184, DA 01-2203 (September 26, 2001) at ¶¶ 6-16, in which the FCC granted Verizon's request to accelerate its right to provide advanced services without using its separate advanced services affiliates, VADI, by permitting Verizon to reintegrate VADI prior to the completion of the BA/GTE Merger Order's sunset period (¶6), in which the FCC noted that its authority to oversee and enforce Verizon obligations under the BA/GTE Merger Orders, and under the other applicable FCC orders and rules, continues (¶12), and in which the FCC noted that it had already clarified, in its July 20, 2001 Order approving Verizon's application to provide interLATA services in Connecticut pursuant to Section 271, that Verizon must make available to resellers at a wholesale discount, the same package of voice and xDSL services that it provides to its own retail end-user customers (¶15). See Memorandum Opinion and Order, Application of Verizon New York Inc., etc., for Authorization to Provide In-Region, InterLATA Services in Connecticut, CC Docket No. 01-100, FCC 01-208 (July 20, 2001) at ¶¶ 27-33.

As a final matter, the Board **DIRECTS** Staff to initiate a process to review the Board's existing Competitive Services Monitoring Reports and make recommendations that would aid the Board in tracking and analyzing the development of local competition throughout the State.

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## VI. SUMMARY CONCLUSION AND ORDERING CLAUSES

On November 20, 2001 the Board announced its oral decision to spur competition in the local telephone market. The implementation of this Order concludes the culmination of a proceeding that began on June 7, 2000 and comes to a close with the signing of this Order. During that time, numerous parties including Verizon NJ, AT&T, Staff, the Advocate, WorldCom, Covad, Sprint, Cablevision and Conversant presented their testimony and analysis that greatly assisted us in shaping this decision. Based upon the input from the parties, we voted on, and unanimously established, key recurring and non-recurring rates that Verizon NJ may charge to competitive providers that lease parts of its network to provide service to end-users. In addition, we decided other essential technical and policy issues vital to local competition, including access to the sub-loop portion of the loop, dark fiber and house and riser cable.

In performing our review, we focused on key inputs and assumptions that affected all rate elements and re-ran the models using our inputs and assumptions for several of the most significant recurring and non-recurring rates and then directed the Company to re-run the balance of the models for the rates not specifically set by us. Based upon our analysis, we established the following two-wire unbundled loop rates for the three density cells in the state<sup>71</sup>.

Density Cell 1	\$8.12
Density Cell 2	\$9.59
Density Cell 3	\$10.92
Statewide Average	\$9.52

On a statewide average basis, the newly established rate is approximately 41% lower than the rate calculated in the Generic Case, and approximately 32%, 40% and 48% less than the comparable density cells rates set in that same case<sup>72</sup>. In addition, we estimated the switching rate at \$0.93 for an unbundled port and \$0.003712 for originating usage and \$0.003245 for terminating usage. Based on our initial analysis, we estimated that CLECs would incur a monthly cost of \$13.93 to provide a combination of loop and switching, known more commonly as UNE-P. UNE-P is a calculated number used for comparison purposes only. Actual cost to the CLECs, however, will vary based upon the usage patterns of their customers since the

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<sup>71</sup> See Letter of Acting Secretary Henry M. Ogden, Esq. to Bruce D. Cohen, Esq., dated November 20, 2001

<sup>72</sup> In the Generic Case the following rates were established for unbundled loops by density cell: Density Cell 1-\$11.95, Density Cell 2-\$16.02, Density Cell 3-\$20.98. This resulted in a state wide average of \$16.21.

switching component contains a usage sensitive rate in the form of originating and terminating usage.

However, based upon our directive that required Verizon NJ to re-run its models using our revised inputs and assumptions, the switching rates were reduced from our initial estimates to \$0.73 for an unbundled port and \$0.002773 for originating usage with vertical services and to \$0.002508 for terminating usage with vertical services. Compared to the Generic Order<sup>73</sup>, the port charge was reduced by approximately 62%, and originating and terminating usage by almost 49% and 22%, respectively.

Using the newly established switching rates, we estimate that CLECs will incur monthly costs of \$12.89 if they use the loop and switching combined to form the UNE-P to provision service. Of course, the CLECs have other options as well that permit them to purchase an individual unbundled loop from Verizon NJ and combine it with their own switching facilities. It is such combinations that we believe will lead to the greatest benefits accruing to consumers. By utilizing its own switches, CLECs will be in a position to create innovative service offers that include one or more vertical features as part of a packaged offering. More importantly, by using their own facilities, CLECs will have the incentive to achieve increased efficiencies beyond those assumed in the studies we used to set rates. By capturing greater efficiencies in their own facilities, CLECs will be able to evaluate and control their own price structures and compete even more aggressively for customers.

Overall, we believe that this Order is a well balanced decision that will propel competition to new heights in New Jersey and provide consumers with additional choice, service offerings and pricing structures to meet the needs of end-users throughout the state. As a Board, we look forward to ushering in a new era in competition and eagerly anticipate the initiation of Staff's initiative to track and monitor the progress of our efforts articulated here.

The Board notes that disputes regarding any and all competitive issues may be brought to the Board under existing procedures.

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<sup>73</sup> In the Generic Order, the switching port was \$1.90 and originating and terminating usage was \$0.005418 and \$0.003207.

A. RECURRING COST MODELS, ASSUMPTIONS AND COSTS

1. The Board FINDS that, until the Supreme Court renders its decision regarding the FCC's TELRIC pricing rule, rates for UNEs should be based upon the existing TELRIC principles, utilizing Verizon-NJ's existing wire center locations and forward-looking technologies.

2. The Board FINDS that the cost models submitted by Verizon NJ, as modified herein, produce rates that are reasonable, non-discriminatory, and consistent with TELRIC principles.

3. The Board ADOPTS the Advocate's cost of capital 8.8% as the appropriate forward-looking cost of capital.

4. The Board FINDS that the economic lives proposed by WorldCom, which utilize the mid-point of the FCC's ranges, constitute appropriate forward-looking depreciation lives for use as inputs in the VNJ Cost Model.

EXPENSE FACTORS

5. The Board FINDS and DIRECTS that the 5-year Adjustment Factor should be corrected to eliminate any increases that result in expenses increasing as a percentage of investment over the life of the cost study.

6. The Board DIRECTS the Company to remove all advertising expenses from its expense factor development.

7. We FIND that the Gross Revenue Loading factor is reasonable and should be applied to all UNE costs to properly reflect costs associated with Verizon NJ's forward-looking regulatory assessments and uncollectibles.

8. The Board ADOPTS the 10% common overhead factor originally used in the Generic Order and proposed by VNJ in its initial filing in this proceeding.

#### LOOP INPUT ISSUES

9. The Board FINDS that the New Jersey Estimate Program is an appropriate tool to access forward-looking cable costs.

10. With regard to cable sizing and selection, the Board FINDS that the Verizon NJ Model produces reasonable estimates of forward-looking costs for UNEs to be provided in New Jersey.

11. We FIND that fiber/copper break point used in Verizon NJ's study is reasonable and reflects a forward-looking efficient network design.

12. The Board FINDS that the methodology relied upon by Verizon NJ in its cost model to estimate the length of the distribution portion of the loop is reasonable and produces reliable estimates for distribution loop lengths necessary to provide UNEs throughout Verizon NJ's service territory.

13. The Board FINDS that the use of 100% IDLC is appropriate in a forward-looking environment and DIRECTS Verizon NJ to revise its model to include the use of 100% IDLC for use in its digital loop carrier system. In addition, the Board FINDS that a digital loop carrier fill factor of 81% for plug-ins and 68% for common electronics is reasonable and shall be utilized in the Verizon NJ cost model.

14. The Board FINDS that for copper distribution plant, the forward-looking fill level proposed by VNJ should be revised upwards to 53%.

15. The Board FINDS that the copper feeder distribution fill level should be revised to 75%, which represents the mid-point between Verizon NJ's actual fill level and the relief point of 85%, and is reasonable and reflects an efficient level of capacity for an operating local exchange company required to provision UNEs.

16. The Board FINDS that the fiber optic feeder cable fill level of 77.5% proposed by Verizon NJ is reasonable.

17. The Board FINDS that the utilization levels for electronic loop equipment of 68% for channel banks and 81% for plug-in units, proposed by Verizon NJ, are reasonable and reflective of the utilization levels a forward-looking efficient company could be expected to achieve.

18. The Board FINDS that Verizon NJ's existing structure mix of 15% buried; 60% aerial; and 25% underground should be utilized in the cost development of UNE rates.

19. The Board FINDS that the structure sharing recommendations proposed by Verizon NJ in its cost study are reasonable and reflective of the manner in which an efficient carrier providing service in New Jersey could expect to incur structure costs.

20. The Board FINDS that Verizon NJ's assumption of an average distance of 150 feet between poles is reasonable and reflective of the manner in which service would be provided throughout New Jersey.

21. The Board ADOPTS the following with regard to pole costs, height and drop length: \$733 for pole costs, a 40 foot pole height, and a drop length of 73 feet.

22. The Board DIRECTS that the modified input assumptions, such as cost of capital, fill factors, depreciation, etc., shall be applied, in addition to the calculation of loop costs, to all other loop-related UNEs and to transport and interoffice UNEs.

23. We FIND that the cost estimates produced by the Verizon NJ Cost Study for transport and interoffice related UNEs are reasonable and reflect forward-looking costs for

the provision of transport and interoffice facilities and access to interoffice facilities in New Jersey, and accordingly, we ACCEPT as reasonable the 75% utilization rate proposed by Verizon NJ, since this utilization represents the mid-point between actual utilization levels and the point at which facilities would be required to be relieved.

B. NON-RECURRING COST MODELS, ASSUMPTIONS AND COSTS

24. The Board ADOPTS the Verizon NJ Non-Recurring Cost Model (NRCM), with modifications set forth below, to establish non-recurring rates.

25. The Board FINDS that, based upon the rationale developed earlier in our discussion on recurring cost models, the NRCM must include, and be consistent with, the Board's findings therein for all inputs and the associated assumptions which are common to both models, e.g., revisions to depreciation, cost of capital, digital loop carrier, etc.

26. The Board FINDS that the methodology employed by Verizon NJ, after the modifications specified herein are taken into account, is sound, in that it makes reasonable estimates of the time currently taken for each work activity.

27. The Board ADOPTS as reasonable, and consistent with the Board Secretary's letter issued on November 20, 2001, the changes to the following cost categories for each of the rates not specifically modified by the Board in the preceding page: (1) Service Order; (2) C.O. Wiring; (3) Provisioning, and (4) Field Installation.

28. The Board ADOPTS the following eight changes as general guidelines to be applied to all NRC rate elements:

- (1) revise all travel times to 20 minutes;
- (2) adjust the time estimates for all additional lines to be equal to the time associated with initial lines where the additional line is greater;
- (3) eliminate all computer connect times for additional lines in recognition that the tasks for the initial and additional lines will be performed within the allotted time for the initial line;

(4) eliminate all times associated with notifying a CLEC to complete an order in recognition that the tasks for the initial and additional lines will be performed within the allotted time for the initial line;

(5) eliminate all times associated with scheduling teams, contacting CLEC, verifying service orders, obtaining CLEC approval, completing order, and notifying team of cancellations for all additional lines in recognition that the tasks for the Initial and additional lines will be performed within the allotted time for the initial line;

(6) revise all times associated with gaining access to a premises, locating terminal, contacting MLAC and working with frame or RCC to 5 minutes;

(7) eliminate all field installation charges associated with migration orders; and,

(8) eliminate all manual translation times that are made obsolete by the flow through capabilities of Verizon NJ's operations support systems.

29. The Board FINDS that disconnection costs are appropriately recovered "up front." The Board also FINDS that the recovery of disconnection costs must utilize a present worth factor reflecting customer turnover every 5 years.

30. The Board FINDS that it is appropriate to include the same forward-looking mix of integrated digital loop carrier in the NRCM as was used in the Recurring Cost Model.

31. The Board FINDS that Verizon NJ was correct in rejecting assumptions by other parties of 100% dedicated inside plant ("DIP") and 100% dedicated outside plant ("DOP").

32. The Board FINDS that the Verizon NJ fallout rates assumed for each work center are credible and hereby ADOPTS those fallout rates as they are reflected in the Verizon NJ NRCM.

33. The Board FINDS that the Verizon NJ NRCM study, as modified herein, results in an appropriate time horizon whereby all the costs are variable, resulting in a forward-looking assessment of NRCs.

C. SWITCHING COST MODELS, ASSUMPTIONS AND COSTS

34. The Board ADOPTS the Verizon NJ series of models to develop switching costs, as modified herein, as the appropriate foundation to determine forward-looking switching rates.

35. The Board HEREBY ADOPTS AT&T's replacement/growth mix of 79.4% replacement and 20.6% growth, assuming 3% annual line growth and a projected 17-year life to determine a forward-looking switch mix, as the appropriate long-run forward-looking input to the cost of Verizon NJ's switches.

36. The Board ADOPTS the switch discounts provided in response to Commissioner Butler's May 7, 2001 ruling in this matter as a surrogate for the appropriate discounts.

37. The Board ADOPTS the Verizon NJ position of 251 days as appropriate number of busy days to be used in the switch rate design.

38. The Board ADOPTS Verizon NJ's cost structure that incorporates the cost of vertical features in the usage sensitive component of switch costs.

39. The Board ADOPTS Verizon NJ's proposed two-tier rate design as properly reflecting the cost causation associated with unbundled switching.

D. OTHER TECHNICAL AND COST ISSUES

40. The Board FINDS that, consistent with Verizon NJ's proposal and our previous findings in the Board's October 6, 1999 Summary Order, the appropriate rate for a dedicated or stand-alone DSL loop is the rate for a standard 2-wire or 4-wire loop.

#### LINE SHARING AND LINE SPLITTING

41. The Board FINDS that the seven conditions of Verizon NJ's line sharing UNE offering must be modified to eliminate the condition that excludes line sharing in conjunction with Platform or EEL arrangements. We DIRECT the Company to eliminate the aforementioned condition as part of its offering.

42. The Board DIRECTS Verizon NJ to modify its offering to permit line splitting in UNE-P arrangements.

43. The Board FINDS that CLECs must provide their own splitters.

44. The Board FINDS that the two splitter configurations that Verizon NJ offers to CLECs are reasonable.

45. The Board FINDS that there is no legal basis to require Verizon NJ to invest in splitters and make them available to CLECs or to finance and administer a changing array of splitter types for use by a number of CLECs. Splitters are not part of the existing list of network elements that Verizon NJ is required to unbundle. We note, however, that splitter ownership and control is currently the subject of an FCC rulemaking. If necessary, this issue will be revisited to ensure consistency with the FCC requirements.

46. The Board FINDS that Verizon NJ's service order charge applicable to line sharing, as modified by the Board as the result of modifications to VNJ's NRCM, is reasonable.

47. The Board FINDS that Verizon NJ's collocation charges for line sharing, when a CLEC decides to add line sharing capabilities to an existing collocation agreement, are reasonable.

48. The Board FINDS that Verizon NJ's development of separate cross connect costs for line sharing is appropriate and HEREBY ADOPTED.

49. The Board FINDS Verizon NJ's loop conditioning proposal is reasonable and is HEREBY ADOPTED.

50. The Board FINDS that Verizon NJ must now make available to CLECs electronically the same loop qualification data contained in the LFACS database that Verizon NJ uses for its own qualification purposes. We do not, however, believe that Verizon NJ should be required to make the actual LFACS database available, but, rather, the identical information that is available to Verizon NJ in an electronic format must be made available to CLECs in an electronic format.

51. Verizon NJ is DIRECTED to make the loop qualification data available electronically to CLECs within ninety days of its receipt of the Summary Order of Approval dated December 17, 2001, as was provided therein, and at the rate set forth in Attachment A to the Summary Order and this Decision and Order. Verizon NJ is FURTHER DIRECTED, during the interim, to assess CLECs only the charge associated with electronic access and not the charge associated with a manual process because the manual intervention is a result of Verizon NJ's failure to make the information electronically available to CLEC's that is already electronically available to itself.

52. The Board FINDS that wideband testing, and associated charges, should be optional at the request of a CLEC for this service.

53. The Board FINDS that cooperative testing, and associated charges, should not be made mandatory, and that Verizon NJ should be permitted to impose a cooperative testing charge on a CLEC only if testing is requested by the CLEC and the trouble is found to be on the CLEC's end of the circuit.

54. The Board DIRECTS Verizon NJ to review its planned deployment of PARTS and inform the Board and the parties of any plans it has to deploy such systems within sixty days of its receipt of the Summary Order of Approval, as was provided therein.

55. The Board DIRECTS Verizon NJ to file, within sixty days of its receipt of the Summary Order of Approval, a petition for approval of Remote Terminal collocation rates, terms and conditions so that CLECs may better evaluate their options as they relate to RTs. The filing shall be provided to interested CLECs, Staff and the Advocate for their review, and is subject to Board review and approval.

56. The Board FINDS that, at present, Verizon NJ has no obligation to provision, for CLECs, plug and play DSL line cards inside its equipment because the Company has not deployed the DLC equipment that is equipped with line card DSLAM technology. However, Verizon NJ is HEREBY DIRECTED to notify the Board and the parties, within five business days of its receipt of this Order, if it has plans to deploy such technology. Verizon NJ is also DIRECTED to immediately notify the Board and the parties if and when the FCC revises its requirements.

## SPLITTER-RELATED CHARGES

57. The Board FINDS that Verizon NJ has demonstrated that its proposed costs are reasonably developed using the application of EF&I factors that capture vendor and engineering (i.e., planning, design and implementation), installation, material related charges, preparing a method and procedure for plant testing, and plant acceptance. CLECs, however, are not mandated to have Verizon NJ perform the installation. Therefore, the splitter installation charge (payable to Verizon NJ) associated with the physical installation of the splitter may be avoided by the CLEC if it elects to have its own technicians perform the installation.

58. The Board FINDS that the CLECs should not have to pay Verizon NJ's proposed Option A administrative and support charges that apply when the CLEC's splitter is located in its collocation cage and DIRECT Verizon to eliminate these charges.

59. The Board ADOPTS Verizon NJ's proposed monthly splitter equipment support charge that applies to arrangements wherein a CLEC elects to have VNJ place the splitter in the CLEC's collocation area.

60. The Board FINDS that Verizon NJ's proposal to mount splitters away from the main distribution frame is reasonable and is HEREBY ADOPTED.

61. The Board FINDS that it is impractical and inefficient for Verizon NJ to permit line or shelf at a time splitter availability, and will not order Verizon NJ to provide access to splitters incrementally on a line or shelf basis.

62. The Board agrees with Verizon NJ that a line and station transfer offering is appropriate to ensure that CLECs have the same non-discriminatory access to provision xDSL service to its customers, but DIRECTS Verizon NJ to restate the terms and

conditions of the offering to extend to CLECs that want to provide line splitting as well as line sharing.

63. The Board ADOPTS Verizon NJ's proposed policy where loops are unavailable.

64. The Board FINDS that the recovery of the costs associated with an engineering work order in the provisioning of UNEs is justifiable and reasonable, and ADOPTS Verizon NJ's proposal recover those costs.

#### HOUSE AND RISER CABLE

65. The Board FINDS that Verizon NJ's proposal, as modified herein, is generally reasonable in that it only seeks to charge CLECs for costs that are incurred in the provision of house & riser cable.

66. The Board DIRECTS Verizon NJ to permit CLECs to install and share terminal blocks as necessary to access house and riser cable.

#### DARK FIBER

67. The Board ADOPTS Verizon NJ's proposed dark fiber rates.

68. The Board DIRECTS Verizon NJ to modify its definition of "dark fiber" so as to eliminate references to spare and continuous in describing dark fiber.

69. The Board DIRECTS Verizon NJ to notify the Board within five business days if it believes that the quantities of dark fiber available in any route have reached a level whereby continuing to provide access to CLECs jeopardizes the network. Upon notification, the Board shall review all the available data concerning the condition.

70. The Board DIRECTS Verizon NJ to permit CLECs to route dark fiber through intermediary central offices without the need to establish collocation facilities in each central office using cost-based cross connections.

71. Whenever a CLEC's request for dark fiber is denied by Verizon NJ, the Company is DIRECTED to provide specific all information in support of the denial to the CLEC and Staff for review within five (5) calendar days of the rejection.

72. The Board DIRECTS Verizon NJ to provide CLECs with the actual number of working dark fibers it orders regardless of how many it needs to evaluate during the initial process.

#### RECIPROCAL COMPENSATION

73. The Board FINDS that the end-office rate should be adopted as the appropriate reciprocal compensation rate. However, in an appropriate forum, CLECs may provide specific data to VNJ and the Board demonstrating that the tandem rate should apply for traffic, consistent with FCC regulations.

#### SUB-LOOP UNBUNDLING

74. The Board DIRECTS Verizon NJ to modify its Sub-Loop proposal to include a standard offering for Sub-Loop Unbundling of the Feeder portion of the loop.

75. The Board DIRECTS Verizon NJ to file a standard offering for Collocation at Remote Terminal Equipment Enclosures.

76. The Board DIRECTS Verizon NJ to file a proposal containing these modifications within sixty (60) days of receipt of this Order, including rates, terms and conditions for Sub-Loop Unbundling at the Feeder Distribution Interface and its proposed CRTEE, providing copies to the entire service list attached to this Order.

#### CUSTOMER SPECIFIC PRICING ARRANGEMENTS

77. The Board DIRECTS Verizon NJ to provide CSPAs consistent with the FCC's requirements that usage in the aggregate for all of a CLEC's customers must meet the same standards as applied to a Verizon NJ individual customer that is being served under the CSPA. Consistent with the FCC requirements, Verizon NJ is permitted to make a showing to the Board that unique economic conditions exist that may support the contention that the CSPA should not be provided to a competitor's customer.

#### DEVELOPMENT OF REVISED UNES

78. The Board DIRECTS Verizon NJ to Require Verizon to permit CLECs to update their forecasts of EEL requirements once every month, and to limit its EEL audit requests to information that is directly relevant to assessing the use of the EEL.

#### MONITORING REPORTS

79. The Board DIRECTS Staff to initiate a process to review the Board's existing Competitive Services Monitoring Reports and make recommendations that would aid the Board in tracking and analyzing the development of Local Competition throughout the State.

80. The Board HEREBY AFFIRMS all decisions by Commissioner Butler made during the course of this proceeding.

RATES

81. The Board HEREBY APPROVES all recurring and non-recurring rates set forth in Attachments "A", "B" and "C" to this Order.

82. The Board HEREBY DIRECTS Verizon NJ to submit a verified statement no later than March 12, 2002 indicating whether Verizon NJ waives its right to challenge the Board's UNE rates in any court or before this Board; and certifying that it will not charge rates greater than the UNE rates herein adopted; and affirmatively stating that it is currently charging these rates. Failure to respond to this directive will be construed as indicating that Verizon NJ will not waive its right to challenge this Decision and Order.

DATED: March 6, 2002

BOARD OF PUBLIC UTILITIES  
BY:

(signed)  
FREDERICK F. BUTLER  
COMMISSIONER

(signed)  
CAROL J. MURPHY  
COMMISSIONER

(signed)  
CONNIE O. HUGHES  
COMMISSIONER

ATTEST:

(signed)  
HENRY M. OGDEN  
ACTING BOARD SECRETARY

